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STUDIES OF AMERICAN PLANTS—IV

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STUDIES OF AMERICAN PLANTS—IV

PAUL C. STANDLEY

The numerous and extensive collections of tropical American plants received for study by Field Museum during 1929 and 1930 have continued to yield a high number of undescribed or otherwise interesting species. Some of these are discussed on the following pages.

The plants other than Rubiaceae that are treated here are chiefly Central American. Most of them are British Honduran, and were collected by C. L. Lundell and William A. Schipp. The plants obtained by these collectors include the usual number of novelties, and several genera new to Central America, such as *Rousselia*, *Suriana*, and *Thespesia*.

Several new species found by the writer in Honduras in 1927-28 are described, the most interesting being a member of the genus *Ludwigia*, a group not recorded previously from Central America. A few species are based upon collections made in Panama twenty years ago by H. Pittier, and submitted recently for determination to Field Museum by the United States National Museum. Several other new plants are from collections made lately in the state of Veracruz, Mexico, by that discriminating collector, Dr. C. A. Purpus. His recent explorations show that Veracruz is not completely known botanically, in spite of the vast amount of work already done there.

The present paper includes, also, a few new names and combinations necessary for observance of the generally accepted rules of nomenclature, or for saner or more conservative treatment of genera.

By far the greater number of the succeeding pages are filled with descriptions of new South American Rubiaceae, a group to which the writer has devoted much time during recent months. The material treated in this paper is from four principal sources. Through the courtesy of Dr. L. Diels and Dr. K. Krause, there have been received for study from the Berlin Botanic Garden more than 700 undetermined Rubiaceae, chiefly of the tribes *Coussareae* and *Psychotrieae*. These include a substantial number of new species from Brazil and Andine South America besides many extensions of range for those

already published. Several sendings of plants from the Jardin Principal Botanique of Leningrad have contained additions to the list of Rubiaceae known at present from Colombia. Most of these addenda were collected by Dr. G. Woronow and S. Juzepczuk in the little-known Caquetá region of southern Colombia, whose flora shows such affinities with that of Amazonian Peru as might naturally be expected.

The majority of the new Rubiaceae described are Peruvian. A large number of them are from the magnificent collection made in eastern Peru in 1929 for Field Museum by Llewelyn Williams. This collection, the first really large one assembled in that particular region, was made in localities not visited, apparently, by the classic collectors, such as Poeppig, Spruce, and Ule. It has proved unexpectedly rich in new species, besides providing material of others not represented hitherto in American herbaria. It includes numerous described species and some genera not reported before from Peru.

A second large Peruvian collection of Rubiaceae is that obtained in 1929 by E. P. Killip and A. C. Smith for the Smithsonian Institution. A nearly complete set of duplicates of the Rubiaceae has been deposited in Field Museum through the courtesy of the United States National Museum and the unicates have been lent for determination. Most of the specimens were gathered in localities other than those visited by Mr. Williams, consequently the species represented are largely different. The Killip and Smith series has yielded a very large number of additions to the flora of Peru.

Study of this huge amount of new material has been facilitated to an extraordinary extent by the series of type photographs obtained at Berlin in 1929-30 by J. Francis Macbride. This work, the most important from the standpoint of American systematic botany that has ever been undertaken, was planned by Dr. B. E. Dahlgren, Acting Curator of the Department of Botany in Field Museum. It is being carried out through a grant generously made for the purpose by the Rockefeller Foundation. Botanists long accustomed to poring over confused Latin descriptions and trying to guess whether the specimen in hand could possibly be the species described, can best understand the joy of having all at once before one's eyes photographs of a vast number of species previously lacking in American herbaria. By this means the task of determination is simplified almost incredibly, and the improvement in accuracy of determinations scarcely can be estimated.

Unless otherwise indicated, all the specimens cited on the succeeding pages are in the herbarium of Field Museum.

COMMELINACEAE

Campelia hirsuta, sp. nov.—Herba erecta valida c. 60 cm. alta simplex, caule sparse hirsuto vel glabro, internodiis brevibus saepe vaginis occultis; folia oblongo-ob lanceolata 14–20 cm. longa, 4–5.5 cm. lata, abrupte longeque acuminata, basin versus longe angustata et distincte petiolata, utrinque dense hirsuta; vaginae subinflatae c. 1 cm. longae, ubique sed praesertim ad marginem densissime pilis longis patentibus fulvis hirsutae; pedunculi foliis plerumque longiores, saepe superne bifidi, dense fulvo-hirsuti, bractea una ad vaginam nudam reducta supra medium onusti; flores pauci, c. 3–4, capitati, bracteis 2 valde inaequalibus fulcrati; bractea major late ovali-ovata 4.5–6 cm. longa, 2–3.5 cm. lata, abrupte acuta, basi truncata vel subcordata, viridis, utrinque dense hirsuta, minore 1.5–3 cm. longa acuta triangulari complicata; sepala oblonga 4–5 mm. longa sparse hirsuto-ciliata, apice densius hirsuta; petala marcescentia alba.—Honduras: Lancetilla Valley near Tela, Dept. Atlántida, altitude about 300 m., January 7, 1928, *Paul C. Standley 54189* (Herb. Field Mus. No. 582,994, type). Also Nos. 52994 and 53957, from the same region.

By recent writers a single species of this genus, *Campelia Zanonia* (L.) HBK., has been recognized, but the present plant is so different from that that it scarcely can be considered as even an extreme form of it. *C. hirsuta* differs conspicuously in its copious pubescence of long stiff hairs, and in the very distinct form of the floral bracts.

Tradescantia gracillima, sp. nov.—Herba gracilis adscendens vel procumbens, ad nodos radicans, caulibus elongatis ramosis in uno latere minute denseque papilloso-pubescentibus, internodiis elongatis; vaginae 4 mm. longae subadpressae, minute praesertim ad marginem pubescentes; folia ovata vel elliptico-ovata 3–5 cm. longa, 1.5–2 cm. lata, acuta, tenuia, basi valde inaequalia et saepe in petiolum brevem contracta, supra sparse pilis longis debilibus pallidis paucicellularibus villosa, subtus pallidiora, glabra; umbellae terminales pauciflorae, pedicellis gracilibus 4 mm. longis glabris; bractee 2 (vulgo basi folio 1 fulcratae) late rotundato-cordatae, apice rotundatae, basi abrupte contractae, extus sparse villosae vel fere glabrae, virides; sepala late ovata obtusa 2.5–3 mm. longa ciliata; petala alba 4 mm. longa; ovarium glabrum.—Honduras: In wet thicket near Tela, Dept. Atlántida, at sea level, January 27, 1928, *Paul C. Standley 55158* (Herb. Field Mus. No. 583,293, type). Also Nos. 54540 and 56609, from the same locality.

The plant is clearly related to *T. commelinoides* R. & S., a Central American species, which has much longer and proportionately narrower leaves, purplish flowers, and comparatively narrower bracts. *T. gracillima* may be the plant described by Clarke (in DC. Monogr. Phan. 3: 296. 1881) as *T. commelinoides* var. *rotundifolia*.

***Commelina elegans* HBK. var. *hirsuta*, var. nov.**—Folia utrinque ut vaginae pilis albidis rigidulis patentibus undique dense hirsuta.—Honduras: In wet thicket, Quebrada Seca, Dept. Yoro, altitude 30 m., December, 1927, *Paul C. Standley 53891* (Herb. Field Mus. No. 583,868, type).

A well-marked form, with much more abundant pubescence than any of the other specimens of this species which are available for comparison.

URTICACEAE

***Rousselia humilis* (Sw.) Urban.**—On the North American continent this weedy plant has been known heretofore only from Yucatan. A recent collection makes possible its inclusion in the Central American flora: British Honduras: Honey Camp, October, 1929, *C. L. Lundell 552*.

ARISTOLOCHIACEAE

***Aristolochia Mexiae*, sp. nov.**—Frutex scandens, caulibus novellis gracilibus subgeniculatis plus minusve angulatis viridibus, minute tomentellis vel subglabratiss, internodiis brevibus vel elongatis; folia breviter petiolata alterna, petiolo crassiusculo 1–1.5 cm. longo dense pilosulo-tomentoso; lamina subcoriacea oblonga vel elliptico-oblonga, interdum ovato-oblonga, 17–21 cm. longa, 7–9 cm. lata, acuta vel subobtusata, basi profunde cordata, sinu petiolum aequante vel paullo longiore lobis late rotundatis clauso, supra viridis, pilis minutis adpressis sparse pilosula, ad venas densius pilosula, venis pallidis prominulis, subtus pallidior, ubique subdense pilosulo-tomentosa, ad venas dense pilis brevibus pallidis subadpressis pilosula, basi 7-nervia, costa crassiuscula elevata, nervis lateralibus utroque latere c. 7, angulo acuto adscendentibus, leviter curvis, gracilibus, elevatis, prope marginem conjunctis, nervulis arctissime reticulatis prominentibus; pedunculi axillares 1–2-flori 4–6 cm. longi, bracteis ovalibus vel ovali-ovatis apice obtusis vel rotundatis 2–4 cm. longis basi breviter cordatis; calyx extus sparse adpresso-pilosulus vel glabratus, stramineus, intus nigro-purpureus, utriculo subgloboso c. 6 mm. longo, fauce ampliata, limbo 3.5–4.5 cm. longo profunde in lobos 3 lineari-attenuatos fisso; capsula anguste oblonga sparse tomentosa acuta basi attenuata, c. 6.5 cm. longa et 1.3 cm. crassa.—Mexico: San Sebastián, Jalisco, alt. 1,500 m., on southern slope of open pine forest, February 13, 1927, *Ynes Mexia 2772* (Herb. Field Mus. No. 605,722, type).

The foliage of this plant is very similar to that of *A. asclepiadifolia* Brandeg., of Mexico, but the calyces of the two species are quite different. The plant is more closely related to the Mexican *A. malacophylla* Standl.

***Aristolochia maxima* L. var. *cordata*, var. nov.**—Folia anguste oblonga, 7.5–13 cm. longa, 2–3.5 cm. lata, acuta vel abrupte acuta, basi profunde cordata, sinu angusto 10–14 mm. longo, lobis basalibus

paullo incurvis late rotundatis, utrinque ad venas puberula, aliter fere glabra; capsula c. 6.5 cm. longa, 4.5 cm. longe stipitata.—Panama: Shores of Gatún Lake south of the laboratory, Barro Colorado Island, August 28, 1929, *W. N. Bangham 455* (Herb. Arnold Arb., type).

The leaves of *A. maxima* are normally obtuse or rounded at the base, or very shallowly cordate, and in none of the numerous specimens available do the leaves approach closely in form those of this Panama plant. It is not improbable that flowers, when collected, may show that this Barro Colorado *Aristolochia* represents a distinct species.

OLACACEAE

Heisteria fatoensis, sp. nov.—Frutex vel arbor omnino glabra, ramulis gracilibus, vetustioribus interdum brunnescentibus, novellis olivaceis subangulatis, internodiis brevibus vel elongatis; folia petiolata, petiolo gracili 7–9 mm. longo supra breviter canaliculato; lamina crasse membranacea oblongo-ovata vel interdum elliptico-oblonga, 7.5–9.5 cm. longa, 3–4.5 cm. lata, subabrupte et longiuscule acuminata, acumine angusto attenuato summo apice anguste rotundato et mucronato, basi plerumque late rotundata, fere concolor, nervulis supra prominulis et laxe reticulatis, costa subtus elevata gracili, nervis lateralibus utroque latere c. 6, tenuibus, fere rectis, prope marginem arcuato-conjunctis, nervulis prominulis reticulatis; flores in axillis fasciculati, pedicellis gracilibus 3–7 mm. longis petiolo brevioribus; calyx c. 0.5 mm. longus, breviter 5-lobus, lobis triangularibus acuminatis sub flore patentibus; petala 5 fere 2 mm. longa oblongo-ovata acuta, intus prope medium villosa; stamina 10; pedicelli fructiferi c. 7 mm. longi; calyx fructifer paullo accrescens, reflexus, ut videtur viridis, 4 mm. longus, subinteger vel brevissime undulato-lobatus; fructus globosus 6–10 mm. diam. ruber, apice late rotundatus.—Panama: Loma de la Gloria near Fató (Nombre de Dios), Prov. Colón, alt. 100 m. or less, July–August, 1911, *H. Pittier 4244* (Herb. Field Mus. No. 599,422, type).

The collector states that the plant is a woody vine, but it is more probable that it is an erect shrub, like other members of the genus. The species is well marked by the very small fruiting calyx and by the globose fruit.

Heisteria concinna, sp. nov.—Arbor 6–9-metralis omnino glabra, ramulis gracilibus subteretibus olivaceis, novellis subteretibus vel obscure angulatis, internodiis brevibus vel elongatis; folia petiolata, petiolo gracili vel crassiusculo 7–18 mm. longo; lamina coriacea vel subcoriacea elliptico-oblonga, 5.5–12 cm. longa, 2.5–5.5 cm. lata, abrupte breviterque acuminata, acumine anguste triangulari attenuato acuto vel subobtusato, basi obtusa vel acuta, fere concolor, costa supra plana vel subimpressa subtus elevata, nervis nervulisque supra prominulis et arcte reticulatis, nervis lateralibus utroque latere c. 6,

subtus prominulis, angulo acuto adscendentibus, fere rectis, prope marginem arcuato-conjunctis, nervulis prominulis arcte reticulatis; flores numerosi in axillis dense fasciculati, pedicellis gracilibus 5–7 mm. longis petiolo duplo brevioribus teretibus; calyx in anthesi 1 mm. longus ad medium 5-lobus, lobis triangulari-ovatis acuminatis erectis; petala 5 acuta, 2 mm. longa, intus prope medium breviter villosa; stamina 10, antheris minutis globosis; calyx fructifer 1.5–2 cm. latus, lobis patentibus rotundato-ovatis apice rotundatis; drupae non visae.—Panama: Vicinity of San Felix, eastern Chiriquí, alt. 120 m. or less, January, 1912, *H. Pittier 5197* (Herb. Field Mus. No. 600,217, type).—Costa Rica: Vicinity of Tilarán, Prov. Guanacaste, 500–650 m., *Standley & Valerio 45669*. Aguilares, Prov. Guanacaste, 600 m., *Standley & Valerio 46353*.

Called “naranjillo” in Costa Rica. Growing there in dry forest; a tree with smooth bark and dense rounded crown; fruits white; fruiting calyx dark red.

By its coriaceous leaves and white fruits this is easily recognized among the few Central American members of the genus.

POLYGONACEAE

Coccoloba cardiophylla Standl. Field Mus. Bot. 8: 8. 1930.

This well-marked species was described from Yucatan. Recently it has been discovered to be a member also of the Central American flora, having been collected in near-by British Honduras: Honey Camp, September, 1929, *C. L. Lundell 514*.

Coccoloba Lundellii, sp. nov.—Arbor, ramulis crassiusculis teretibus brunnescentibus glabris, internodiis brevibus vel elongatis; folia breviter petiolata, petiolo 1–2 cm. longo crasso supra sulcato minutissime puberulo; ocreae brunneae 5–7 mm. longae et ultra subpersistentes glabrae; lamina coriacea orbicularis vel interdum ovalis, 8–14.5 cm. longa et saepe aequilata, apice latissime rotundata, basi late rotundata et saepe emarginata vel subcordata, supra glabra, costa venisque prominulis, subtus concolor ad nervos et interdum in tota pagina minutissime puberula, glabrescens, costa crassa elevata, nervis lateralibus utroque latere c. 7 gracilibus elevatis, fere rectis vel leviter arcuatis, prope marginem planum vel subrevolutum arcuato-conjunctis, nervulis inconspicuis; racemi terminales et axillares, laxe multiflori, solitarii, c. 2 cm. longe pedunculati, 22–27 cm. longi et ultra, rhachi gracili flexuosa dense et minutissime puberula, ocreolis minutis persistentibus vix 1 mm. longis; pedicelli breves rigidi glabri 2–2.5 mm. longi; fructus late ovoideus c. 1 cm. longus et 7–8 mm. latus obtusus, basi abrupte breviterque constrictus, glaber, tubo accrescente perianthii inclusus.—British Honduras: Honey Camp, October 24, 1929, *C. L. Lundell 649* (Herb. Field Mus. No. 605,614, type).

Evidently a relative of the widespread *C. Schiedeana* Lindau, but differing conspicuously in its very broad leaves, somewhat suggestive of those of the common seagrape, *C. Uvifera*.

RAFFLESIACEAE

This family has been discovered in Central America only recently, *Apodanthes Flacourtiæ* Karst. having been found in 1927 on Barro Colorado Island, Canal Zone (see Field Mus. Bot. 4: 149. 1929). A second representative of the family may now be recorded for Central America:

Pilostyles mexicana (Brandeg.) Rose. *Apodanthes mexicana* Brandeg.

Honduras: Near Siguatopeque, Dept. Comayagua, alt. 1,100 m., February, 1928, *Paul C. Standley 56221*, growing on *Calliandra lucens* (Britton) Standl. The *Pilostyles* was abundant on this host, and was easy to recognize, even at some slight distance, after it once had been found, because of the tuberculate appearance given to the branches of the *Calliandra* by the dense clusters of flowers.

SAXIFRAGACEAE

Ribes Menziesii Pursh var. **subvestitum** (Hook. & Arn.), comb. nov. *R. subvestitum* Hook. & Arn. Bot. Beechey Voy. 346. 1838. *Grossularia Menziesii* var. *subvestita* Berger, N. Y. Agr. Expt. Sta. Tech. Bull. 109: 77. 1924.

Ribes leptosmum (Cov.), comb. nov. *Grossularia leptosma* Cov. N. Amer. Fl. 22: 214. 1908.

Ribes senile (Cov.), comb. nov. *Grossularia senilis* Cov. N. Amer. Fl. 22: 214. 1908.

Ribes tularense (Cov.), comb. nov. *Grossularia tularensis* Cov. N. Amer. Fl. 22: 218. 1908.

Ribes Van-Fleetianum (Berger), comb. nov. *Grossularia Van-Fleetiana* Berger, N. Y. Agr. Expt. Sta. Tech. Bull. 109: 93. 1924.

Ribes texense (Cov. & Berger), comb. nov. *Grossularia texensis* Cov. & Berger, N. Y. Agr. Expt. Sta. Tech. Bull. 109: 95. 1924.

Ribes klamathense (Cov.), comb. nov. *Grossularia klamathensis* Cov. N. Amer. Fl. 22: 225. 1908.

Ribes Downingianum (Berger), comb. nov. *Grossularia Downingiana*, Berger, N. Y. Agr. Expt. Sta. Tech. Bull. 109: 103. 1924.

Ribes neglectum (Berger), comb. nov. *Grossularia neglecta* Berger, N. Y. Agr. Expt. Sta. Tech. Bull. 109: 106. 1924.

Ribes non-scriptum (Berger), comb. nov. *Grossularia non-scripta* Berger, N. Y. Agr. Expt. Sta. Tech. Bull. 109: 107. 1924.

ROSACEAE

Amelanchier denticulata (HBK.) Koch.—So far as I know, this genus has not been known heretofore from Central America, but it may now be recorded from Guatemala: San Juan Sacatepequez, alt. 1,480 m., in 1929, *Jesús Morales Ruano* 1375. The vernacular name is given as "cerezo rojo."

RUTACEAE

Zanthoxylum mayanum, sp. nov.—Arbor, ramulis crassis pallidis lenticellis parvis dense conspersis glabris; folia pinnata, foliolis c. 14 alternis, petiolo tereti 5–6 cm. longo glabro, rhachi gracili 19–23 cm. longa subtereti, sparse et minutissime puberula vel glabrata; foliola 2–4 mm. longe petiolulata, subcoriacea, oblonga vel anguste oblonga, infima c. 5.5 cm. longa et 3 cm. lata, superiora 9.5–16 cm. longa, 3–5.5 cm. lata, abrupte breviterque acuminata, acumine anguste triangulari apice rotundato, basi valde inaequali acuta, latere exteriore 2–3 mm. infra interiorem protracta; integra, dense et grosse glanduloso-punctata, supra glabra, lucida, costa subimpressa, nervulis prominulis, subtus fere concolor, sublucida, ad costam prominentem minute adpresso-pilosula, aliter glabra vel glabrata, nervis lateralibus numerosis angulo lato divergentibus, nervulis laxo reticulatis prominulis; inflorescentia ut videtur axillaris, late paniculata, panicula 18–26 cm. longa et fere aequilata, pyramidalis, c. 6 cm. longe pedunculata, ramis adscendentibus dense minuteque albidohirtellis, floribus secus ramulos fasciculatis c. 1.5 mm. longe pedicellatis; flos masculus: calyx 1 mm. latus 5-lobus patens, lobis rotundato-ovatis apice obtusis vel rotundatis extus dense puberulis; petala 5 oblonga obtusa fere 2 mm. longa glabra; stamina 5 petalis longiora, filamentis crasse filiformibus 3–3.5 mm. longis glabris, antheris latis fere 1 mm. longis.—British Honduras: Honey Camp, November 7, 1929, *C. L. Lundell* 672 (Herb. Field Mus. No. 605,617, type).

Apparently an ally of *P. Kellermanii* P. Wilson.

SIMARUBACEAE

Suriana maritima L.—This shrub, common in some portions of the West Indian region, has not been reported, so far as I know, from Central America. The following collection is at hand: British Honduras: Stann Creek, in open places along the beach, a shrub 1.5 m. high, December, 1929, *W. A. Schipp* 508.

MALPIGHIACEAE

Stigmaphyllon ciliatum (Lam.) Juss.—Although known from the West Indies, this species has not been reported to occur on the North American mainland. Specimens are now at hand, as follows: British Honduras: Stann Creek, in mangrove swamp, a woody vine 4.5 m. long, with a stem 2.5 cm. in diameter, the flowers yellow, December, 1929, *W. A. Schipp* 559.

SAPINDACEAE

Thouinidium decandrum (H. & B.) Radlk.—In the *Trees and Shrubs of Mexico* (Contr. U. S. Nat. Herb. 23: 708. 1923) this species is reported only from western Mexico. Two recent collections extend its range substantially within that country: Rancho Remudadero, Veracruz, April, 1929, *C. A. Purpus* 13042, 14078.

MALVACEAE

Thespesia populnea (L.) Soland.—This species is one of those plants frequent in many parts of the West Indies which always may be expected to occur in Mexico and Central America, but there is no available record of its occurrence there. The following collection is probably the first report for Central America: British Honduras: Stann Creek, at edge of mangrove swamp, a shrub 3 m. high, with a trunk 10 cm. in diameter, the capsules yellow, December, 1929, *W. A. Schipp* 505.

VIOLACEAE

Hybanthus Purpusii, sp. nov.—Herba vel frutex ramosus 30–40 cm. altus et ultra, ramis gracilibus teretibus, novellis dense incurvo-puberulis; stipulae lineari-filiformes 1–2 mm. longae, erectae, persistentes vel deciduae; folia petiolata alterna, petiolo gracillimo 5–16 mm. longo incurvo-puberulo; lamina membranacea, lanceolato-oblonga vel oblongo-ovata, 3–8 cm. longa, 1.5–3.5 cm. lata, longiuscule acuminata, basi rotundata vel saepius breviter cordata, crenata vel crenato-serrata, supra viridis, glabra, subtus paullo pallidior, tantum ad nervos minute scaberula vel fere omnino glabra, costa gracili prominente, nervis lateralibus utroque latere c. 4, angulo acuto adscendentibus, prope marginem conjunctis; flores axillares solitarii, pedicellis gracillimis fere filiformibus 1.5–2.5 cm. longis dense incurvo-puberulis; sepala lanceolata paullo inaequalia 4–5 mm. longa viridia glabra ciliata attenuata 3-nervia persistentia; petalum inferius longe unguiculatum c. 9 mm. longum, lamina oblongo-ovata obtusa extus minute puberula intus glabra, sepalis plus quam duplo longius; petala minora sepalis breviora; capsula 5–6 mm. longa glabra

acuta.—Mexico: Banks of creek, Zacuapam, Veracruz, August, 1929, *C. A. Purpus 13012* (Herb. Field Mus. No. 603,371, type). Barrancas near Rancho Viejo, Veracruz, October, 1929, *Purpus 14087*.

This plant appears to be most nearly related to *H. longipes* (Dowell) Standl. and *H. glaber* (Dowell) Standl., both of which are Mexican, but they are conspicuously different in the form of their leaves, which are acute or long-attenuate at the base.

Hybanthus pumilio, sp. nov.—Herba ut videtur perennis, e basi ramosa, caulibus 8–13 cm. longis subteretibus dense breviterque pilosis, internodiis elongatis; stipulae inferiores lineares et 2–3 mm. longae virides ciliatae persistentes, superiores subulatae et 1–2 mm. tantum longae; folia breviter petiolata opposita, petiolo crassiusculo c. 2 mm. longo puberulo; lamina membranacea late ovata vel ovato-elliptica, 1.5–3 cm. longa, 1–2 cm. lata, acuta vel obtusa, basi acuta, crenato-serrata, utrinque praesertim ad nervos hispidula, fere concolor, costa subtus prominente crassiuscula, nervis lateralibus utroque latere 3–4 angulo acuto adscendentibus; flores axillares solitarii, pedicellis validis 1–4 mm. longis (in statu fructifero usque ad 10 mm.) hispidulis vel glabratis; sepala lanceolata longe attenuato-acuminata 3-nervia glabra ciliata persistentia; petala omnia sepalis breviora, minora oblonga obtusa c. 2 mm. longa glabra; capsula c. 9 mm. longa abrupte rostrata glabra, rostro crasso obtuso.—Mexico: Esperanza, Puebla, September, 1911, *C. A. Purpus 5604* (Herb. Field Mus. No. 299,206, type).

Clearly a relative of *H. humilis* (Rose & Dowell) Standl., of the Valley of Mexico. In that there is a large lower petal, the sepals are longer, the flowers are on slender pedicels 6–8 mm. long, and the leaves are described as glabrous.

BEGONIACEAE

Begonia Popenoei, sp. nov.—Herba acaulis, rhizomate horizontali subgracili c. 1 cm. crasso; stipulae 2–2.5 cm. longae lanceolato-oblongae longe attenuatae tenues brunnescentes extus sparse hispidae; folia e rhizomate longe petiolata, petiolo gracillimo usque ad 25 cm. longo dense pilis longis patentibus hispido-piloso; lamina membranacea late et oblique ovata, 10–23 cm. longa, 6.5–17 cm. lata, apice longe acuminata, basi valde obliqua profunde cordata, sinu angusto vel interdum in foliis minoribus lato, lobis basalibus late rotundatis, remote et minute repando-dentata vel fere integra, basi c. 7-nervia, supra viridis, sparse hispida, subtus paullo pallidior, ubique subdense pilis brunnescentibus vel ferrugineis hispido-pilosa; scapus petiolos aequans vel interdum brevior, sparse pilosus vel glabratus, gracilis, erectus; cymae masculae dense pauciflorae c. 4 cm. longae et aequilatae, ramis sparse breviterque pilosis; sepala 6–7 mm. longa rotundata alba, basi et apice rotundata, glabra;

cymae fructiferae usque ad 12 cm. latae glabratae, pedicellis gracilimimis 1–2 cm. longis recurvis; capsula 8–9 mm. longa glabra, angulo uno in alam tenuem fere horizontalem 10–14 mm. longam apice rotundatam extenso, aliis 3–4 mm. late alatis.—Honduras: In wet forest on the hills above Lancetilla, near Tela, Dept. Atlántida, altitude about 100 m., December 13, 1927, *Paul C. Standley 52933* (Herb. Field Mus. No. 582,868, type). Lancetilla Valley, *Standley 52641*.

The species is named for Wilson Popenoe, director of the Lancetilla Experiment Station. This *Begonia* is a handsome one, and well worthy of cultivation. It somewhat resembles *B. nicaraguensis* Standl., but the latter differs at first glance in its coarsely toothed leaves, which have an altogether different pubescence.

MYRTACEAE

***Calyptranthes Pittieri*, sp. nov.**—Frutex vel arbor, ramulis subteretibus vel obtuse quadrangulatis cinnamomeis rimosis, novellis minutissime ferrugineo-puberulis, internodiis brevibus vel elongatis; folia breviter petiolata opposita, petiolo crasso 3–5 mm. longo sparse strigilloso vel glabrato; lamina crasse coriacea, oblongo-elliptica vel late elliptica, 3.5–7.5 cm. longa, 1.5–3.5 cm. lata, acuminata, acumine anguste triangulari attenuato obtuso, basi obtusa vel acuta, interdum subrotundata, utrinque glabra vel glabrata, supra obscure viridis, impunctata, costa subimpressa, nervis obsoletis, subtus brunnescens, ubique in statu juvenili minute sparseque nigrescenti-puncticulata, costa crassiuscula elevata, venis nervulisque obscuris, margine plano; inflorescentiae axillares solitariae vel geminatae, cymoso-paniculatae, 3–5.5 cm. longae, 4–7.5 cm. latae, crasse 3–5 cm. longe pedunculatae, multiflorae, e basi trichotomae, ramis crassissimis compressis ferrugineo-sericeis vel serius glabratis, floribus ad apices ramulorum dense congestis sessilibus dense ferrugineo-sericeis, in alabastro 3.5 mm. longis obovoideis apice obtusis; calycis tubus 2–2.5 mm. longus obconicus; stamina numerosa longe exserta.—Costa Rica: Volcán de Poás, alt. 2,600 m., March 31, 1907, *H. Pittier 2034* (Herb. Field Mus. No. 599,947, type).

From the other Costa Rican species of *Calyptranthes* this is well distinguished by the thick leaves and by the very thick, strongly compressed branches of the ample inflorescence.

***Eugenia Storkii*, sp. nov.**—Arbor parva fere omnino glabra, ramulis crassis cinnamomeis vel interdum albidis, glabris vel rarius sparse pilosulis, internodiis brevibus; folia petiolata opposita, petiolo crasso 4–7 mm. longo supra sulcato glabro vel rare pilosulo; lamina rigide coriacea, elliptica, obovato-elliptica vel rotundato-obovata, 2.5–5 cm. longa, 1.3–3.5 cm. lata, apice obtusa vel rotundata, interdum late rotundata et emarginata, basi acuta vel obtusiuscula, utrinque glabra, supra viridis, saepe lucida, sparse punctata, costa

nervisque subimpressis vel planis, costa crassa elevata, venis obsolete vel vix prominulis, epunctata vel sparse minuteque puncticulata, margine plerumque revoluta; inflorescentiae axillares 1.5–3 cm. longe pedunculatae, triflorae, flore centrali sessili, aliis 3–8 mm. longe pedicellatis, pedicellis crassiusculis patentibus glabris vel pilosulis, bracteis linearibus 2–3 mm. longis; calycis tubus obovoideus c. 3 mm. longus glaber puncticulatus, sepalis 4 late rotundatis fere 3 mm. longis extus glabris ciliolatis; petala alba sepalis multo longiora glabra; stamina numerosa exserta.—Costa Rica: In potrero below Poás, alt. 1,800 m., June 6, 1928, *H. E. Stork 2501* (Herb. Field Mus. No. 598,526, type). East of Irazú, a tree in potrero, alt. 2,850 m., May, 1928, *Stork 2074*. Cerro Jucosal, a small tree with very dense, dark green foliage, the bark and branches like those of guava, *Stork 1228*. Fraijanes, Prov. Alajuela, 1,500–1,700 m., February, 1926, *Standley & Torres 47426*. Las Cóncevas, August, 1919, *C. H. Lankester K.99*.

A relative of *E. fragrans* (Sw.) Willd.

***Eugenia chepensis*, sp. nov.**—Frutex, ramulis subteretibus gracilibus brunnescentibus vel ochraceis, novellis dense minuteque puberulis vel pilosulis, internodiis plerumque c. 1 cm. longis; folia breviter petiolata opposita, petiolo gracili 1–2 mm. longo puberulo; lamina subcoriacea lanceolato-oblonga, 1.5–4 cm. longa, 7–10 mm. lata, longe acuminata, acumine angusto attenuato apice anguste rotundato, basi acuta vel acuminata, supra fusca, glabra vel ad costam puberula, nervis obsolete, ubique minute puncticulata, subtus multo pallidior, glabra, costa gracillima elevata, sparse minuteque puncticulata, nervis lateralibus utroque latere c. 9 angulo acuto divergentibus gracillimis prominulis, margine plano; inflorescentiae breviter racemosae, axillares vel plerumque e parte defoliata ramuli nascentes, 1–2 mm. longe pedunculatae, 3–7-florae, bracteis 0.6 mm. longis late ovatis acutis et apiculatis persistentibus, pedicellis gracilibus 2–3.5 mm. longis dense minuteque puberulis rectis; calyx c. 2.5 mm. latus, sepalis 4 late rotundatis extus sparse minuteque puberulis vel glabris ciliolatis puncticulatis patentibus; stylus gracilis glaber 3 mm. longus.—Panama: Along the Río Chararé near Chepo, Province of Panama, alt. 50–200 m., October 29–30, 1911, *H. Pittier 4716* (Herb. Field Mus. No. 600,199, type).

The plant is noteworthy for the very small, narrow leaves, and for the numerous short racemes of small, comparatively long-pediceled flowers.

***Eugenia guanacastensis*, sp. nov.**—Frutex vel arbor 3–7.5 m. alta, ramis teretibus rimosis, novellis gracilibus glabris interdum subcompressis, internodiis elongatis; folia brevissime petiolata opposita, petiolo crasso 2–4 mm. longo glabro; lamina coriaceo-membranacea, oblonga vel elliptico-oblonga, 6–12 cm. longa, 3–5 cm. lata, acuta vel breviter acuminata, apice ipso obtuso, basin versus paullo angustata, basi ipsa late rotundata vel subcordata, utrinque

glabra vel tantum ad costam puberula, supra viridis, costa subimpressa, venis venulisque prominulis, subtus fere concolor, costa crassiuscula elevata, nervis lateralibus utroque latere c. 7, angulo acuto adscendentibus, subarcuatis, prope marginem arcuato-conjunctis, nervulis prominulis laxè reticulatis; flores numerosi ad nodos ramorum defoliorum fasciculati, pedicellis gracilibus 17–21 mm. longis subrigidis rectis glabris; calycis tubus obovoideus glaber 2 mm. longus, sepalis 4 ovalibus 4 mm. longis puncticulatis tenuibus roseis vel purpurascentibus glabris; stylus gracilis glaber 7–8 mm. longus.—Costa Rica: In wet forest, a slender tree with narrow crown, Los Ayotes, near Tilarán, Province of Guanacaste, alt. 600–700 m., January 21, 1926, *Paul C. Standley & Juvenal Valerio 45410* (Herb. Field Mus. No. 599,601, type). Naranjos Agrios, Guanacaste, in moist forest, 600–700 m., *Standley & Valerio 46378*. Tilarán, Guanacaste, in moist forest, 500–650 m., *Standley & Valerio 44240*. Quebrada Grande, southeast of Tilarán, 650 m., *Standley & Valerio 46125*.

The shrub or tree is a very handsome one, its blossoms suggesting those of apple trees in color and general effect.

Eugenia Pittieri, sp. nov.—Frutex, ramulis gracillimis teretibus cinnamomeis vel ochraceis rimosis, novellis dense minuteque puberulis, internodiis plerumque 1–1.5 cm. longis; folia brevissime petiolata opposita, petiolo crassiusculo 1–2 mm. longo minute puberulo; lamina tenuiter coriacea, oblanceolato-oblonga vel anguste elliptico-oblonga, 4–5 cm. longa, 1–1.5 cm. lata, abrupte breviterque acuminata, acumine angusto apice anguste rotundato, basi acuta vel acuminata, supra fusco-viridis, ad costam prominentem minutissime puberula, aliter glabra, nervis obsoletis, subtus multo pallidior, brunnescens, glabra, undique densissime puncticulata, costa gracillima vix prominula, venis obscuris, margine plano; flores in axillis paucifasciculati, sessiles vel brevissime crassequè pedicellati; calyx 1.5 mm. latus, lobis brevissimis late rotundatis obscure ciliolatis, extus fere glabris, puncticulatis; petala rotundata puncticulata c. 2 mm. longa glabra.—Panama: Forests of the upper Mamoni River, Province of Panama, alt. 150–400 m., October, 1911, *H. Pittier 4484* (Herb. Field Mus. No. 599,478, type). Canal Zone, in 1910, *Mrs. A. P. Epplesheimer*.—Costa Rica: Naranjos Agrios, Prov. Guanacaste, 600–700 m., *Standley & Valerio 46514, 46466*. Tilarán, Guanacaste, 500–650 m., *Standley & Valerio 45016, 45677, 44510*.

In size and form of leaves this is much like *E. chepensis*, but it differs from that species in the sessile fascicled flowers. The Costa Rican specimens are in fruit, but they are probably conspecific with the flowering specimens from Panama.

MELASTOMACEAE

Ossaea trichocalyx Pittier, Journ. Washington Acad. Sci. 13: 391. 1923.

Although known previously only from Panama, having been described from the Canal Zone, recent collections show that this species has a wide range. The following specimens agree well with type material: Honduras: Lancetilla Valley near Tela, Dept. Atlántida, near sea level, *Standley 52713, 54144*; a slender shrub 1–2 m. high, often reclining; fruit red or violet, borne on naked branches below the leaves.—British Honduras: Middlesex, in jungle, alt. 60 m., July, 1929, *W. A. Schipp 240*; a shrub 2 m. high, the flowers white, the ripe berries bright blue.

***Clidemia involucrata* DC.**—Another addition to the flora of Central America is this well-marked species, known hitherto from the Guianas and Trinidad. Its extension to British Honduras, without known occurrence in intervening Central America, is paralleled in the case of numerous other species. British Honduras: Near Middlesex, in mountain forest, alt. 480 m., a treelike shrub 3 m. high, with small white flowers, the branches covered with reddish purple hairs, the fruits black, November, 1929, *W. A. Schipp 474*.

***Conostegia pentaneura*, sp. nov.**—Frutex 2-metralis, ramulis crassiusculis obtuse tetragonis, novellis sparse minuteque ferrugineo-puberulis cito glabratiss, internodiis elongatis; folia longiuscule petiolata opposita, petiolo gracili 2–6 cm. longo subtereti minute ferrugineo puberulo vel fere glabro; lamina elliptica vel oblongo-elliptica, 16–26 cm. longa, 9.5–12.5 cm. lata, membranaceo-coriacea, subabrupte breviterque acuminata, basi acuta, supra viridis, lucida, glabra, nervis non elevatis, subtus fere concolor, in sicco plus minusve brunescens, sublucida, ad venas minute furfuraceo-puberula, aliter glabra, basi 5-nervia, nervis gracilibus elevatis, nervulis transversis angulo fere recto divergentibus crebris parallelis, margine remote undulato-repando-dentato; flores paniculati, panicula 4.5 cm. longe pedunculata, laxe multiflora, c. 13 cm. longa et 8 cm. lata, ramis crassiusculis adscendentibus vel suberectis sparse et minutissime furfuraceo-puberulis vel fere glabris, pedicellis crassis glabratiss 2–3.5 mm. longis; calyx in alabastro 6–7 mm. longus ellipsoideus apice acutus vel acutiusculus glaber, floribus pentameris; petala ochroleuca; antherae c. 2 mm. longae.—Honduras: In forest, Lancetilla, near Tela, Dept. Atlántida, alt. 100 m., August 8, 1929, *F. M. Salvoza 825* (Herb. Arnold Arb., type).

This plant is clearly related to *C. superba* Don, in which the leaves are quintuplinerved and rounded at the base.

ONAGRACEAE

***Ludwigia hondurensis*, sp. nov.**—Herba erecta stricta sparse ramosa c. 1 m. alta, caulibus gracilibus subteretibus et substriatis minute et subdense puberulis, internodiis foliis brevioribus; folia

alterna sessilia vel subsessilia, crassa et subrigida, linearia vel oblongo-linearia, 2–7 cm. longa, 3–5 mm. lata, basi et apice obtusa, integra, utrinque praesertim ad costam sparse et minutissime puberula vel fere glabra, costa utrinque prominente, venis obsoletis; flores pauci in axillis superioribus solitarii, pedicellis 5–11 mm. longis puberulis et sparse breviterque pilosulis; hypanthium clavatum 6 mm. longum pilosulum; sepala 4 lanceolata c. 11 mm. longa et 4 mm. lata longe acuminata, sparse minuteque pilosula vel glabrata; petala late obovata glabra sepalis breviora; discus epigynus subglobosus 2.5 mm. altus densissime albidohispidulus, stylo crasso vix 2 mm. longo glabro, stigmatibus capitato 1.5 mm. lato.—Honduras: Along a stream in pine forest near Siguatopeque, Dept. Comayagua, altitude about 1,100 m., February, 1928, *Paul C. Standley 56464* (Herb. Field Mus. No. 581,008, type).

It was quite unexpected to find in Honduras a member of this North American genus, which is almost confined to the United States. No true species of the group, apparently, is known from either Central America or Mexico. *L. hondurensis* is clearly a relative of *L. virgata* Michx., of the southeastern United States, the latter differing conspicuously in its relatively broader leaves, large petals, broader sepals, and very small epigynous disk.

UMBELLIFERAE

Eryngium caricinum, sp. nov.—Herba perennis e rhizomate brevi crasso erecta, omnino glabra, c. 1 m. alta, caule gracili tereti striato fere 5 mm. crasso simplici vel pauciramoso; folia plerumque basalia pauca linearia c. 50 cm. longa, parallela paucinervia, integra, utrinque longissime sensimque attenuata, prope medium 7 mm. lata; umbella terminalis c. 14 cm. longa et aequilata, e basi 6-radiata, phyllis lineari-lanceolatis attenuatis c. 12 mm. longis fulcrata, radiis 6.5–10 cm. longis gracilibus adscendentibus 1–3-dichotomis, bracteis 5–6 mm. longis 3-fidis, laciniis subulatis; spiculae paucae oblongo-cylindricae 6–14 mm. longae et 3–4.5 mm. crassae purpurascentes, apice obtusissimae, 2–3.5 cm. longe pedicellatae, pedicellis striatis rigidis rectis, involucelli phyllis ovato-lanceolatis acuminatis floribus brevioribus; spiculae bractee lanceolatae floribus paullo longiores, calycis dentibus minutis, petalis apice emarginatis; carpella juvenilia densissime squamis hyalinis obsita.—Honduras: At edge of a small stream in pine forest near Siguatopeque, Dept. Comayagua, altitude about 1,100 m., February, 1928, *Paul C. Standley 56478* (Herb. Field Mus. No. 581,216, type).

This species, of which only a single individual was found, in spite of prolonged search, bears no very close resemblance to any other *Eryngium* of which I have seen material. It is noteworthy for its slender sedgeline habit, long narrow leaves, and small slender flower spikes.

THEOPHRASTACEAE

Clavija Chermontiana, sp. nov.—Frutex vel arbor omnino glabra, ramulis crassis ferrugineis vel fusco-brunneis rimosis lenticellis paucis pallidis vix elevatis conspersis; folia alterna vel pseudoverticillata (3–4) petiolata, petiolo gracili 2.5–5.5 cm. longo subangulato basi plus minusve tumido; lamina coriacea obovato-oblonga, 20–30 cm. longa et 8.5–11 cm. lata et ultra, acuta vel abrupte acuminata, basin versus longe attenuata, integra vel obsolete et remotissime denticulata, in sicco luteoviridis, concolor, sublucida, costa supra non elevata, venis prominulis, costa subtus elevata crassiuscula, nervis lateralibus angulo lato divergentibus, fere rectis, juxta marginem conjunctis, gracillimis, prominulis, nervulis prominulis arcte et eleganter reticulatis; inflorescentiae racemosae laterales 6–8 cm. longae fere sessiles laxae multiflorae simplices, bracteis minutis pedicellis vulgo brevioribus ovatis acutis liberis, pedicellis crassis 1–2 mm. longis, floribus ut videtur saepe secundis; calyx 3.5 mm. latus, lobis 5 late rotundatis minute laciniato-ciliatis; corolla expansa fere 1.5 cm. lata, 7 mm. longa, tubo brevissimo, lobis 5 tubo triplo longioribus subintegris; staminodia 5 brevia incrassata subcucullata rotundata cum petalis alternantia; stamina in tubum brevissimum coalita, disco antherarum 10-dentato.—Brazil: Boa Vista, on the Tapajoz River, State of Pará, May–June, 1929, *B. E. Dahlgren & Emil Sella 200* (Herb. Field Mus. No. 602,531, type).

In his monograph of the genus *Clavija* (in Engler's Pflanzenreich) Mez reports from the lower Amazon Valley a single species, *C. serrata* (Hoffmansegg) Mez, a plant with serrate leaves. The present plant does not agree in floral details with any of the species which he lists from other regions.

At the request of Dr. B. E. Dahlgren, this species is named for Snr. Bento Chermont, of the Museu Goeldi, to whom Field Museum is indebted for generous assistance during the Marshall Field Amazon Expedition in 1929 especially in connection with the photographing of the many type specimens contained in the Museu Goeldi's rich herbarium of Amazonian plants.

ASCLEPIADACEAE

Vincetoxicum Lundellii, sp. nov.—Volubilis, caulibus gracilibus viridibus glabris vel ad nodos strigillosis, internodiis valde elongatis; folia longe petiolata opposita, petiolo gracillimo 1.5–5 cm. longo glabro vel obscure et minutissime puberulo; lamina membranacea, ovato-triangularis, 3.5–6 cm. longa, 2–6 cm. lata, abrupte et longiuscule acuminata, acumine angusto attenuato acutissimo, basi profunde cordata, sinu 8–11 mm. longo et saepe latiore, lobis basalibus late rotundatis, utrinque glabra, supra ad basin glandulis 3–4 minutis instructa, subtus pallidior; flores breviter racemosi, racemis axillari-

bus solitariis 2–5 cm. longe pedunculatis paucifloris, bracteis minutis deciduis, pedicellis gracillimis c. 2.5 cm. longis glabris; sepala oblonga acuminata 2–2.5 mm. longa glabra; corolla ut videtur viridis, extus glabra, fere ad basin 5-fida, laciniis linearibus 1.5 cm. longis 2–2.5 mm. latis longe angustaque attenuatis, intus minute puberulis et secus medium prope basin albo-ciliatis, intus valde bicoloribus; corona annularis brevissima dense albo-hirtella; stigma pentagonum depressum 3 mm. latum.—British Honduras: Honey Camp, October, 1929, *C. L. Lundell* 540 (Herb. Field Mus. No. 603,593, type).

The plant is noteworthy for the very narrow corolla lobes, which bear a longitudinal line of stiff white hairs along the middle near the base.

VERBENACEAE

Stachytarpheta angustifolia (Mill.) Vahl.—So far as the writer knows, this easily recognized species has been known on the continent only from Yucatan, but it may now be recorded as a member of the Central American flora: British Honduras: Honey Camp, October 20, 1929, *C. L. Lundell* 626.

SOLANACEAE

Solanum palmillae, sp. nov.—Frutex inermis fere omnino glaber, ramulis subteretibus gracilibus viridibus glabris, internodiis brevibus; folia breviter petiolata sparsa, petiolo gracili glabro 6–15 mm. longo; lamina membranacea, oblanceolato-linearis vel fere linearis, 6.5–21 cm. longa, 4–17 mm. lata, versus apicem longissime sensimque attenuata, versus basin aequaliter attenuata, integra, utrinque laete viridis, glabra, costa supra plana vel prominula, venis inconspicuis, costa subtus prominente gracili, nervis lateralibus paucis remotis angulo acuto adscendentibus, nervulis inconspicuis; flores numerosi cymosi, cymis axillaribus vel subterminalibus dense paucifloris breviter pedunculatis, pedicellis gracilibus plerumque 4–7 mm. longis glabris; calyx vix 2 mm. longus campanulatus sparse et minutissime stellato-lepidotus vel glaber, 5-denticulatus, dentibus triangularibus erectis acutis tubo multo brevioribus; corolla ut videtur alba, extus glabra, fere ad basin 5-fida, laciniis oblongis 6–7 mm. longis patentibus obtusis; antherae anguste oblongae 3 mm. longae obtusae, poris anterioribus.—Mexico: In rocky gulches, Rancho Palmilla, Veracruz, April, 1929, *C. A. Purpus* 13014 (Herb. Field Mus. No. 603,252, type). In arroyo, Camarón, Veracruz, October, 1926, *Purpus* 11049.

This appears to be a relative of the Mexican *S. aligerum* Schlecht., but among all the Mexican species of *Solanum* it may be recognized readily by the narrow and very much elongate leaves.

SCROPHULARIACEAE

Angelonia ciliata Robinson, Proc. Amer. Acad. 45: 400. 1910.

So far as now known, this clearly differentiated species is confined to British Honduras. Three recent collections may be placed on record: British Honduras: Near Tower Hill Estate, in 1928, *J. S. Karling* 1. Honey Camp, October, 1929, *C. L. Lundell* 580; October, 1928, *Lundell* 67.

GESNERIACEAE

Achimenes Calderonii, sp. nov.—Herba debilis ut videtur perennis, erecta vel suberecta, simplex, caule c. 15 cm. alto gracili obtuse tetragono satis dense pilis longis patentibus gracillimis viscido-villoso, internodiis elongatis; folia longe petiolata opposita saepe inaequalia, petiolo gracillimo 1–3 cm. longo viscido-villoso; lamina tenuiter membranacea, elliptico-oblonga vel oblongo-ovata, 5–10.5 cm. longa, 2–4 cm. lata, longiacuminata, basi acuta vel obtusa et abrupte breviterque decurrens, grosse crenata, supra laete viridis, sparse villosula, subtus pallidior, sparse, ad nervos densius, viscido-villosula, costa crassiuscula prominente, nervis lateralibus utroque latere c. 10, angulo acuto adscendentibus leviter arcuatis, in marginem desinentibus; flores axillares solitarii vel rarius geminati, pedicellis gracillimis c. 9 mm. longis dense viscido-villosis; calyx extus dense viscido-villosus, tubo c. 1.2 mm. longo, lobis 5 viridibus ovatis vel oblongo-ellipticis 5 mm. longis acutis vel acuminatis integris subaequalibus in fructu persistentibus et suberectis; corolla pallida extus glabra intus in tubo purpureo-punctata, tubo crasso 9 mm. longo superne sensim dilatato, ore c. 5 mm. lato, lobis 5 late rotundatis c. 3 mm. latis subrecurvis integris; stylus calyce paullo longior, in fructu saepe recurvus; capsula 3 mm. longa basi obtusa villosa.—Salvador: San Juan de Tepezontes, in 1929, *Salvador Calderón* 2542 (Herb. Field Mus. No. 603,260, type).

ACANTHACEAE

Diateinacanthus hondurensis Lindau, Bull. Herb. Boiss. II. 5: 369. 1905. *Odontonema paniculiferum* Blake, Contr. Gray Herb. 52: 104. 1917.

Whether the genus *Diateinacanthus* is a valid one, the writer is not prepared to decide, but it was so considered by Lindau, who did some of the best and some of the worst work upon the American Acanthaceae. The herbarium of Field Museum possesses a photograph of the type specimen, in the herbarium of the New York Botanical Garden, collected at Puerto Sierra (now Tela), Honduras, in 1903 by Percy Wilson, No. 129. Through the courtesy of Dr. B. L. Robinson, there has been examined also the type specimen of

Odontonema paniculiferum Blake, which is clearly conspecific. It was collected in forest near Manatee Lagoon, British Honduras, in January, 1906, *M. E. Peck* 278.

The following recent collections of this plant may be cited: Honduras: Lancetilla Valley, near Tela, Dept. Atlántida, in wet forest, *Standley* 53203, 53986, 52624, 52615. Lancetilla Valley, along stream, *W. D. Hottle* 104. It is a rather handsome, slender shrub, sometimes as much as 2.5 m. high, with pale yellow flowers.

RUBIACEAE

***Manettia poliodes*, sp. nov.**—Frutex (?) scandens, caulibus vetustioribus stramineis vel pallide brunnescentibus subteretibus crassiusculis, novellis pilis brevibus brunnescentibus patentibus vel interdum subreflexis dense villosulo-tomentosis, internodiis brevibus vel elongatis; stipulae erectae persistentes c. 2 mm. longae apice remote 3-denticulatae dense tomentosae; folia petiolata opposita, petiolo gracili 3–12 mm. longo dense tomentoso; lamina ovato-elliptica vel oblongo-ovata, 4–8 cm. longa, 2–4 cm. lata, membranacea, abrupte sensimve acuminata, acumine acutissimo, basi rotundata vel obtusissima, supra viridis, sparse villosula vel adpresso-pilosula vel glabrata, venis non elevatis, subtus grisea vel ochracea, undique dense tomentosa, costa gracili elevata, nervis lateralibus utroque latere 6–7, gracillimis, prominulis, arcuatis, prope marginem conjunctis; inflorescentiae axillares foliis multo breviores, umbellato-cymosae, laxae multiflorae, supremae interdum sessiles et umbelliformes, usque ad 1 cm. longe pedunculatae, pedicellis gracilibus 5–13 mm. longis dense albidotomentosis; bractae plerumque minutae, interdum 2 mm. longae, ovatae, acutae, tomentosae; calyx 4-partitus, laciniis 4 ovatis basi contractis apice acutis vel acuminatis, extus dense tomentosis, intus glabris vel glabris, patentibus vel suberectis; corolla violacea, extus glabra, tubo 7–10 mm. longo crassiusculo superne paullo dilatato, lobis 4 triangulari-ovatis 2–2.5 mm. longis acutis, suberectis vel paullo patentibus; stylus breviter exsertus; capsula subglobosa c. 5 mm. longa, basi obtusa, subdense tomentosa, calyce persistente coronata.—Peru: In thicket, Marcapata Valley near Chilechile, Prov. Quispicanchi, Dept. Cuzco, alt. 2,500 m., February 21, 1929, *A. Weberbauer* 7863 (Herb. Field Mus. No. 605,052, type). Below Lares, Prov. Calca, Dept. Cuzco, alt. 3,100–3,200 m., March 7, 1929, in thicket, *Weberbauer* 7890.

A species well marked by its bicolored leaves, small glabrous corollas, and broad leafy calyx lobes.

***Manettia Albert-Smithii*, sp. nov.**—Volubilis herbacea, caulibus gracilibus ut videtur olivaceis glabris, internodiis valde elongatis; stipulae 2–2.5 mm. longae virides in vaginam connatae acutae interdum remote carnosio-fimbriatae glabrae erectae persistentes; folia

petiolata opposita, petiolo crassiusculo 5–7 mm. longo glabro supra sulcato interdum anguste marginato; lamina coriacea oblongo-lanceolata vel anguste ovata 5–7 cm. longa, 1.5–3 cm. lata, longissime angustequae acuminata, basi obtusa vel rarius subacuta, glabra, supra in sicco pallide viridis, costa venisque valde impressis, subtus paullo pallidior, interdum flavescens, costa valida elevata, venis utroque latere 3 prominentibus, angulo acutissimo adscendentibus, leviter arcuatis, marginem fere attingentibus, venulis obsoletis, margine saepe revoluta; inflorescentiae racemiformes axillares solitariae vel fasciculatae, foliis paucis reductis onustae vel nudaе, 2–9 cm. longae, dense vel laxe multiflorae, interdum tantum umbelliformes et pauciflorae, floribus plerumque 1–2 mm. longe pedicellatis interdum congestis; hypanthium obovoideum glabrum 2–2.5 mm. longum; calyx 4-partitus, laciniis erectis viridibus coriaceis planis lanceolatis vel lanceolato-oblongis c. 6 mm. longis (in statu fructifero usque ad 10 mm.), acutis vel acuminatis, scaberulo-ciliatis, persistentibus; corolla alba extus glabra, tubo crasso 6–7 mm. longo fauce 3–3.5 mm. lato, lobis 4 anguste triangulari-oblongis 6–7 mm. longis patentibus obtusis, intus pilis longis multicellularibus satis dense villosis; antherae semi-exsertae vel inclusae; stylus longe exsertus; capsula immatura subglobosa 6–7 mm. longa et fere aequilata, basi obtusa vel abrupte contracta et acutiuscula, glabra.—Peru: Wooded hillside, Ccarrapa, between Huanta and Río Apurimac, Dept. Ayacucho, alt. 1,200 m., May, 1929, *E. P. Killip and A. C. Smith 22418* (Herb. Field Mus. No. 607,883, type). In thickets, Aina, between Huanta and Río Apurimac, Dept. Ayacucho, 750–1,000 m., May, 1929, *Killip & Smith 23104*.

The species is a very well-marked one by reason of its thick hard leaves, lack of pubescence, exceptionally long and leafy calyx-lobes, and very long corolla lobes. It resembles the Peruvian *M. leucantha* Krause, which has much shorter calyx lobes.

***Manettia Jorgensenii*, sp. nov.**—Volubilis, caulibus gracilibus, vetustioribus ochraceis et cortice suberoso obtectis, novellis viridibus gracillimis dense breviterque villosis, internodiis foliis longioribus; stipulae 1.5 mm. longae suberectae in vaginam brevem connatae, parte libera anguste triangulari acuminata, sparse villosae vel glabratae; folia brevissime petiolata opposita, petiolo villosa 1–2.5 mm. tantum longo; lamina membranacea oblongo-ovata vel lanceolato-oblonga 2–5 cm. longa, 0.8–2 cm. lata, acuta vel sensim acuminata, breviter et subadpresse villosula, costa venisque non elevatis, subtus vix pallidior, subsparse villosa, costa gracili elevata, nervis lateralibus utroque latere c. 3, angulo acuto valde adscendentibus, venulis obsoletis; flores pauci in racemos breves axillares foliaceos dispositi, pedicellis gracilibus plerumque 4–6 mm. longis villosulis; hypanthium late obovoideum 1.2 mm. longum basi acutiusculum sparse villosulum; calyx 4-partitus, laciniis lanceolatis 1.5 mm. longis subulato-attenuatis sparse villosulis subpatentibus; corolla alba extus glabra, tubo crassiusculo 4 mm. longo et 1.5 mm. lato, lobis 4 patentibus 2

mm. longis acutis intus dense villosis.—Argentina: Las Pavas, a vine 2–3 m. long, *P. Jörgensen* 1908 (U. S. Nat. Herb. No. 922,124, type).

In general appearance as well as in details this plant is similar to *M. Guilleminiana* Schum., of Rio de Janeiro, but that species differs in having a puberulent corolla.

Syringantha, gen. nov.—Frutices erecti; stipulae interpetiolares minutae subulatae caducae; folia opposita breviter petiolata, lamina angusta integra; inflorescentiae terminales cymoso-paniculatae, ramis plus minusve secundifloris, floribus aureis mediocribus pedicellatis bracteatis; hypanthium obovodeo-turbinatum; calyx brevis 5-dentatus, dentibus triangularibus acutis persistentibus; corolla tubulosa elongata angusta extus glabra, intus ad insertionem staminum villosa, fauce glabra, lobis 5 brevissimis erectis latioribus quam longis imbricatis, 2 exterioribus; stamina 5 supra basin tubi inserta, filamentis elongatis filiformibus glabris, antheris basifixis linearibus obtusis semiexsertis; discus annularis tumidus; ovarium 2-loculare; stylus filiformis glaber exsertus, stigmatem minuto capitato; ovula in loculis numerosis, placentis septo adnatis insertis, ascendentibus; capsula oblonga 2-ocularis, septicide bivalvis, valvis ut videtur integris, paucisperma; semina imbricata nucleo compresso, testa in alam latam tenuem producta.

Type species, *Syringantha loranthoides* Standl.

Syringantha loranthoides, sp. nov.—Frutex arborescens sive arbuscula c. 2.5 m. alta dense ramosa, ramis vetustioribus crassiusculis subteretibus fusco-brunneis rimosis, novellis olivaceis obtuse tetragonis dense minuteque puberulis, internodiis plerumque 4–8 mm. longis; stipulae triangulari-subulatae c. 1.5 mm. longae; petioli plerumque 4–6 mm. longi minutissime puberuli vel glabrati supra leviter sulcati; lamina coriacea anguste lanceolato-oblonga vel lineari-lanceolata, 2–5 cm. longa, 4–14 mm. lata, versus apicem sensim angustata, apice ipso obtuso, basi acuta, supra in sicco luteo-viridis, glabra vel ad costam planam minutissime sparseque puberula, subtus concolor, glabra vel tantum ad costam minute puberula, costa gracili elevata, venis obsoletis; inflorescentiae laxae multiflorae sessiles vel 1–2 cm. longe pedunculatae, e basi trichotomae vel saepe fastigiato-ramosae, 4–6 cm. longae et interdum latiores, ramis dense et minutissime puberulis, bracteis subulatis vel anguste triangularibus c. 1 mm. longis, floribus saepius secundis, pedicellis rectis plerumque 3–4 mm. longis minute puberulis; hypanthium 2–2.5 mm. longum minutissime puberulum vel glabrum; calyx glaber, dentibus vix 1 mm. longis; corolla aurea, tubo c. 18 mm. longo superne paullo dilatato et 2–2.5 mm. lato, lobis c. 1.5 mm. longis et paullo latioribus obtusissimis; stamina 4 mm. supra basin tubi inserta, filamentis gracillimis 10–12 mm. longis, antheris 8 mm. longis; stylus c. 24 mm. longus; capsula 5–7 mm. longa 2.5–3 mm. crassa, conspicue supra calycem

persistentem protracta, ferruginea, glabra; semina pauca c. 1.5 mm. longa brunnea.—Mexico: Entre San Diego y la Hacienda de Santiaguillo, July, 1842, *Karwinsky 308*. Santiaguillo, July, 1842, *Karwinsky*. El Pantario (?) et in Santiaguillo, April, 1843, *Karwinsky 308b*. Santiaguillo, October, 1842, *Karwinsky 308c* (original number 31). Specimens all in Leningrad Herbarium.

The collector's notes read: "Frutex arborescens 8-pedalis pulcherrima; flores aurei. An *Chelone*?" The shrub must be a handsome one because of its profuse, rather large flowers. The general effect in the dried specimens reminds one somewhat of certain species of the genus *Loranthus* and its allies. The foliage is strikingly suggestive, also, of that of the genus *Vallesia*.

The genus *Syringantha* evidently is a close relative of *Exostema*, of the tribe Cinchoneae, but the corollas are conspicuously different in the two genera. In *Exostema* the corolla lobes are elongate, often very much so, narrow, and usually spreading or even recurved.

Macrocnemum latilimbum, sp. nov.—Frutex, ramulis crassiusculis brunnescentibus vel ochraceis rimosis, novellis glabris, internodiis brevibus; stipulae deciduae, non visae; folia breviuscule petiolata opposita, petiolo gracili 2–3 cm. longo minute griseo-puberulo; lamina membranacea oblongo-obovata, 12–15.5 cm. longa, 5–7 cm. lata, breviter acuminata, basin versus angustata, basi ipsa acuta, supra in sicco fusca, glabra, costa nervisque non elevatis, subtus fusco-brunnescentis, ad nervos breviter cinereo-hirtella, aliter glabra vel glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 10, angulo acuto adscendentibus, prominentibus, gracillimis, subarcuatis, prope marginem conjunctis, nervulis prominulis laxissime reticulatis; inflorescentia terminalis cymoso-paniculata laxa multiflora, c. 15 cm. longa et fere aequilata, ramis glabris vel sparse et minutissime puberulis, bracteis primariis foliaceis et foliis conformibus, aliis triangularibus vel anguste oblongis 2–5 mm. longis acutis subpatentibus, floribus saepe subumbellatis, sessilibus vel 1–3 mm. longe pedicellatis, pedicellis minute griseo-puberulis; hypanthium 4–5 mm. longum anguste oblongo-clavatum basin versus angustatum minute griseo-puberulum; calyx 1.5 mm. longus breviter dentatus, dentibus triangularibus acutis; corolla rosea extus minutissime griseo-puberula, tubo gracili 8 mm. longo superne paullo dilatato, lobis 5 lanceolato-oblongis 8 mm. longis acutis vel acuminatis patentibus, interdum ovatis, intus minute puberulis.—Colombia: Bucamaranga, Prov. Pamplona, alt. 1,200 m., February, 1848, *L. Schlim 1670* (Leningrad Herb., type).

A relative of *M. roseum* (R. & P.) Wedd., which likewise grows in Colombia, but in that species the corolla is glabrous, the leaves obtuse, and the pubescence ferruginous.

Bouvardia Karwinskyi, sp. nov.—Frutex 1–1.5 m. altus dense ramosus, ramulis gracilibus, vetustioribus ferrugineis vel brunneis, novellis sparse minuteque puberulis vel glabris, internodiis brevibus vel elongatis; stipulae persistentes sparse puberulae, basi in vaginam brevem fere 2 mm. longam connatae, parte libera lineari-subulata erecta attenuata viridi 2–3 mm. longa; folia opposita, axillis plerumque ramulis brevissimis et densissime foliatis instructis, linearia vel anguste linearia, 3–4.5 cm. longa, 1–3 mm. lata, versus apicem subulatum attenuata, basin versus sensim angustata et brevissime petiolata, 1-nervia, ad margines minutissime scaberula, aliter glabra, costa subtus prominente; flores terminales solitarii sessiles vel usque ad 3 mm. longe pedicellati; hypanthium turbinato-oblongum 4 mm. longum glabrum; calyx 4-partitus, laciniis anguste linearibus 15–26 mm. longis foliis conformibus, apice subulatis, ad margines minute scaberulis, erectis, viridibus; corolla alba extus glabra, tubo gracillimo 3.5–5 cm. longo, supra vix dilatato, ore 3 mm. lato, lobis 4 patentibus ovato-oblongis c. 12 mm. longis et 4–5 mm. latis acutiusculis intus glabris; antherae inclusae; capsula (perfecta non visa) fere 1 cm. longa.—Mexico: Between Victoria and Río Blanco, in 1842, *Karwinsky 312* (type). Hacienda de Santiaguillo, August, 1842, *Karwinsky 312c*. Without definite locality, July, 1842, *Karwinsky 312b*. All specimens in the Leningrad Herbarium.

The collector's notes state that the plant is a shrub of four to five feet, the very fragrant white flowers with the odor of jasmine.

Bouvardia Karwinskyi is one of the most clearly distinct species which I have ever had occasion to describe. It is evidently a relative of *B. longiflora* (Cav.) HBK., but the only member of the group centering about that species with which it could be confused is *B. erecta* (DC.) Standl. The latter is similar only in having narrow leaves, but they are only 5–16 mm. long, and the calyx lobes are merely 2.5–6 mm. long. In habit the two species are quite unlike, and they bear little general resemblance to each other. The dense, very long and narrow leaves of *B. Karwinskyi*, and the long corollas, give the whole plant an aspect which reminds one strongly of some species of the genus *Amsonia*.

Remijia bracteata, sp. nov.—Ramuli graciles grisei vel fusco-grisei, vetustioribus glabris, novellis sparse brunneo-strigosis, internodiis brevibus vel elongatis; stipulae oblongo-ellipticae deciduae c. 15 mm. longae et 7 mm. latae tenues acutae, extus sparse strigosae vel glabratae, erectae; folia breviter petiolata opposita, petiolo crassiusculo 5–8 mm. longo supra breviter sulcato sparse strigilloso vel glabrato; lamina coriacea elliptico-oblonga, 8.5–14.5 cm. longa, 3–5.5 cm. lata, abrupte acuminata, acumine angusto obtuso, basi acuta, supra lucida, glabra, costa venisque manifestis sed vix elevatis, subtus paullo pallidior, fere omnino glabra, costa gracili elevata, nervis lateralibus utroque latere c. 11 angulo acuto latove adscendentibus,

gracilibus, elevatis, arcuatis, prope marginem conjunctis, nervulis obscuris laxe reticulatis; inflorescentiae axillares cymoso-corymbosae c. 6 cm. latae trichotomae 5–12 cm. longe pedunculatae, ramis subdense ferrugineo-strigosis, bracteis basalibus 2 linearibus plerumque 10–13 mm. longis attenuatis, superioribus lanceolatis vel oblongis acuminatis extus dense strigosis calyces fere aequantibus persistentibus, floribus dense congestis sessilibus vel brevissime pedicellatis; hypanthium 2 mm. longum dense adpresso-pilosum; calycis laciniae lanceolatae 5–6 mm. longae attenuatae extus sparse strigosae intus glabrae; corolla non visa; capsula oblonga 1–1.5 cm. longa, 5–7 mm. lata, leviter bisulcata, obtusa, basi acuta, ferruginea, sparse strigillosa vel glabrata, septicida bivalvis.—Colombia: Barranca Vermeja, Río Magdalena, July, 1868, *William Weir* 75 (Herb. Kew., type).

The species is noteworthy for the large persistent bracts.

Remijia peruviana, sp. nov.—Frutex vel arbor parva 2–5-metralis, ramulis vetustioribus obtuse tetragonis gracilibus vel crassiusculis brunnescentibus vel fusco-ferrugineis, novellis valde compressis sparse adpresso-pilosulis vel glabratiss, internodiis elongatis; stipulae mox deciduae tenues ovales vel oblongae dense strigosae apice obtusae vel rotundatae; folia breviter petiolata opposita, petiolo crasso 5–15 mm. longo glabrato; lamina coriacea elliptica vel late ovata, 8–17 cm. longa, 4–9 cm. lata, acuta, apice ipso obtuso, basi acuta vel saepe rotundata vel subtruncata, interdum abrupte contracta et breviter decurrens, supra sublucida, glabra vel tantum ad venas minute adpresso-pilosula, costa venisque prominulis, venulis obsoletis, subtus paullo pallidior, in sicco saepe brunnescens, praesertim ad venas adpresso-pilosula vel fere glabra, costa gracili valde elevata, nervis lateralibus utroque latere c. 16 elevatis gracilibus, angulo lato interdum fere recto abeuntibus, fere rectis vel leviter curvis, prope marginem obscure conjunctis, venulis vix prominulis arcte reticulatis, margine saepe revoluti; inflorescentiae axillares solitariae 5–12 cm. longe pedunculatae folia circa aequantes, cymoso-paniculatae, parvae, dense multiflorae, vulgo 2.5–4 cm. longae et latiores, cyma solitaria parva infra inflorescentiam principalem prope medium pedunculi interdum inserta, ramis brevibus adscendentibus vel divaricatis rigidis dense pilis brevibus adscendentibus fulvis pilosis, bracteis persistentibus brevibus lanceolatis vel linearibus extus dense adpresso-pilosulis, floribus dense congestis sessilibus vel vix 1 mm. longe pedicellatis; hypanthium ovale vel oblongum fere 1.5 mm. longum basi obtusum dense pilis brevibus fulvis adpressis indutum, calyce 1–1.3 mm. longo extus dense adpresso-pilosulo ad medium 5-fido, laciniis ovatis vel lanceolatis erectis acutis; corolla alba extus dense fulvo-sericea, tubo gracili 8–11 mm. longo c. 1 mm. lato, lobis 5 anguste lanceolatis 5–6 mm. longis attenuatis intus sparse puberulis patentibus; stylus 3–4 mm. longus gracillimus glaber; capsula anguste oblonga ferruginea 12–15 mm. longa et 4–5 mm. lata, sparse minuteque adpresso-pilosula, basi acuta, apice calyce persistente coronata, valvis apice brevissime bifidis vel integris, seminibus numerosis late alatis.—Peru: Near Marana, vicinity of Iquitos, Dept. Loreto, July

17, 1929, *Llewelyn Williams 1512* (Herb. Field Mus. No. 604,643, type). Punchana, near Iquitos, *Williams 1333*. Palta Cocha, on the Upper Río Nanay, Dept. Loreto, *Williams 3190*. Marana, *Williams 1511*. Forest between Río Nanay and Río Napo, *Williams 675*. Lower Río Nanay, *Williams 340*. Iquitos, *Killip & Smith 27296, 26973*. Tarapoto, *Spruce 4581*. Nauta, secus ostiam Ucayali, *Spruce 3857*.

Vernacular names, "cascarilla" and "collar lisa."

Remijia peruviana is related to *R. tenuiflora* Benth., with which some of the collections have been confused, but the latter species differs in its much larger corolla, longer and narrower calyx lobes, and few-flowered inflorescence. *Remijia megistocaula* Krause, also described from Peru, has smaller capsules and leaves with different venation and pubescence.

***Ladenbergia malacophylla*, sp. nov.**—Arbor 6–12-metralis, ramulis crassis fuscis, novellis subcompressis dense pilosulo-tomentosis, internodiis brevibus; stipulae caducae, non visae; folia petiolata opposita, petiolo crasso 4–5 cm. longo dense tomentoso supra anguste sulcato; lamina rigide membranacea late ovalis vel late elliptica, 22–26 cm. longa, 14–18 cm. lata, apice obtusa vel fere rotundata, basi late rotundata vel breviter cordata, supra in sicco fusca, dense pilosula, aspera, costa anguste sulcata, venis prominulis, subtus ubique dense pilis rigidiusculis fulvis velutino-pilosa, costa crassiuscula elevata, nervis lateralibus utroque latere c. 14 angulo recto vel lato abeuntibus, gracilibus, prominentibus, leviter curvis vel fere rectis, juxta marginem conjunctis, nervulis prominulis transversis subparallelis; inflorescentia terminalis cymoso-paniculata 2–4 cm. longe pedunculata, pyramidalis vel corymbiformis, dense multiflora, c. 14 cm. longa et aequilata, ramis crassis subcompressis adscendentibus vel divaricatis dense fulvo-tomentosis, bracteis inconspicuis mox deciduis, floribus dense cymoso-aggregatis sessilibus vel 1–2 mm. longe pedicellatis; hypanthium oblongo-turbinatum 4–5 mm. longum dense pilis adscendentibus ochraceo-pilosum, calyce 2–2.5 mm. longo ad medium 5-fido, laciniis ovatis vel triangularibus erectis obtusis vel acutiusculis extus adpresso-pilosulis vel glabratibus; corolla alba extus dense sericea, tubo gracili 22–24 mm. longo 3–4 mm. lato superne vix dilatato, lobis 5 anguste oblongo-lanceolatis c. 1 cm. longis versus apicem attenuatis intus minute puberulis; stylus gracilis glaber; capsula oblonga 2.5–4.5 cm. longa fusco-ferruginea sparse puberula vel adpresso-pilosula basi acuta, apice acutiuscula et calyce persistente coronata, valvis crassis dorso nervosis 1–1.5 cm. latis; semina magna pallide brunnescentia ala tenui laciniata cincta.—Peru: In dense forest, Pichis Trail, Porvenir, Dept. Junín, alt. 1,500–1,900 m., July 3–4, 1929, *E. P. Killip and A. C. Smith 25914* (Herb. Field Mus. No. 607,618, type). Pichis Trail, alt. 1,400 m., in dense forest, *Killip & Smith 25434* (U. S. Nat. Herb.).

A relative of *L. carua* (Wedd.) Standl.

Ferdinandusa hirsuta, sp. nov.—Arbor 10–12-metralis, ramulis subteretibus vel obtuse tetragonis crassis brunnescentibus dense ferrugineo-hirsutis, internodiis elongatis, internodio infra inflorescentiam glabro vel tantum ad nodos hirsuto; stipulae caducae, non visae; folia brevissime petiolata opposita, petiolo crasso 3–5 mm. longo dense hirsuto; lamina subcoriacea oblonga vel elliptico-oblonga 8–15 cm. longa, 4.5–7 cm. lata, breviter abrupteque acuminata, acumine anguste triangulari obtuso, basi obtusa vel anguste rotundata, supra sublucida, primo sparse hirsuta, mox glabrata, costa venisque ut nervuli prominulis, subtus fere concolor, subdense ferrugineo-hirsuta, costa crassiuscula elevata, nervis lateralibus utroque latere c. 11 obliquis, angulo lato adscendentibus, gracilibus, prominentibus, fere rectis, versus apicem abrupte curvis et juxta marginem conjunctis, nervulis prominulis arcte reticulatis; inflorescentia terminalis sessilis cymoso-corymbosa dense multiflora, 2–2.5 cm. longa et paullo latior, ramis crassis rigidis glabris, bracteis ovatis vel late triangularibus 1–2 mm. longis glabris persistentibus acutis vel acuminatis, floribus plerumque in cymulas densas trifloras dispositis, pedicellis crassis 1–2 mm. longis; hypanthium turbinatum glabrum angulatum 2.5–3 mm. longum basi acutum, calyce brevissimo c. 0.8 mm. longo remote 5-denticulato discum crassum lobulatum vix superante, denticulis acutis vel acuminatis; corolla alba extus glabra, tubo gracillimo 26–37 mm. longo 1.2 mm. lato, supra vix dilatato, fauce 2.5 mm. tantum lato, lobis 5 ovalibus vel ovatis 4–5 mm. longis patentibus late obtusis intus glabris; capsula anguste oblonga 4–4.5 cm. longa glabra fusco-ferruginea, basi acuta, valvis c. 13 mm. latis nervosis.—Brazil: In dense forest, Manaos, State of Amazonas, alt. 25 m., October 17, 1929, *E. P. Killip and A. C. Smith 30159* (Herb. Field Mus. No. 607,638, type).

The species is easy to recognize because of the abundant pubescence of coarse, stiff, spreading, ferruginous hairs.

Ferdinandusa Paxii Winkl. Repert. Sp. Nov. 7: 249. 1909.

The species was based on material collected at San Antonio, near Mapiri, Bolivia, and it is represented by several collections from that country. A recent collection from Peru is referable to the same species: Peru: Mishuyacu, near Iquitos, Dept. Loreto, alt. 100 m., in 1929, *G. Klug 294*; a tree 6 m. high, the flowers white.

Tresanthera pauciflora (Soler.) Schum. in E. & P. Nat. Pflanzenfam. IV. 4: 19. 1891.

In the admirable account of the Rubiaceae by R. O. Williams and E. E. Cheesman in the Flora of Trinidad and Tobago (1928) there is no mention of this plant, but the following specimens are in the herbarium of Field Museum: Tobago: In sylvis ad Cremorue River, alt. 360 m., November, 1889, *Eggers 5812*; a tree 3.5 m. high;

flowers yellowish white. Easterfield, December 20, 1912, *Broadway 3076*; a small tree with "pale white" flowers.

This species, if it be distinct, is the second of the genus, the other being *T. condamineoides* Karst., of Venezuela. So far as I know, no description of *T. pauciflora* has been published, and the parenthetical citation of Solereder by Schumann (l. c.) is unexplained. Probably the reference is to an herbarium name.

***Rustia longifolia*, sp. nov.**—Omnino glabra, ramulis crassis obtuse tetragonis fusco-ferrugineis, internodiis 1–3 cm. longis, novellis in sicco subcompressis; stipulae persistentes arcte adpressae c. 1 cm. longae ovato-triangulares acutae; folia brevissime petiolata opposita, petiolo crasso 0.5–1.5 cm. longo; lamina membranacea anguste oblan-ceolato-oblonga 20–40 cm. longa, 5–10 cm. lata, longe acuminata, acumine angusto longe attenuato, basin versus longe sensimque attenuata, supra in sicco fusca, lucida, costa prominente, venis vix elevatis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere c. 20 angulo lato interdum fere recto abeuntibus, gracilibus, prominentibus, fere rectis vel leviter arcuatis, prope marginem conjunctis, nervulis prominulis arcte reticulatis; inflorescentia terminalis 20 cm. longe pedunculata late paniculata corymbiformis, c. 30 cm. longa et aequilata, ramis paucis oppositis longe nudis sub-patentibus vel late adscendentibus, versus apicem cymoso-ramosis, basi bracteatis, bracteis linearibus usque ad 2 cm. longis, infimis foliaceis, floribus in cymulas laxas plerumque trifloras dispositis, plerumque 3–5 mm. longe pedicellatis; capsula immatura clavato-cylindracea 1.5–1.8 cm. longa, 4–5 mm. crassa, basi acuta, conspicue costata, disco calyce brevior; calyx ad apicem capsulae persistens fere 2 mm. longus breviter 5-lobus, lobis late rotundatis; semina numerosa minuta angulata.—Colombia: Between Santa Marta and Marsella, Territorio del Caquetá, August, 1926, *G. Woronow and S. Juzepczuk 6426* (Leningrad Herb., type).

Apparently this plant is rather closely related to *Rustia splendens* (Karst.) Standl., a Colombian species, but the latter has deciduous stipules and a dense thyrsiform panicle, very different from the corymb-like panicle of *R. longifolia*.

***Hillia Killipii*, sp. nov.**—"Arbor 3–4.5 m. alta omnino glabra," ramulis crassis subteretibus fusco-ferrugineis transverse asperatis, novellis tetragonis sulcatis, internodiis brevibus; stipulae tenues brunnescentes deciduae anguste oblongae 2.5 cm. longae apice rotundatae; folia petiolata opposita, petiolo gracili supra leviter sulcato 1–1.5 cm. longo; lamina tenuiter coriacea elliptico-oblonga 7.5–9.5 cm. longa, 3–3.5 cm. lata, longe abrupteque acuminata, acumine angusto longe attenuato, basi acuta, interdum breviter decurrens, supra in sicco fusca, costa venisque leviter impressis, lucida, subtus pallidior, brunnescens, lucida, ubique dense et minutissime puncticulata, costa

gracili elevata, nervis lateralibus utroque latere c. 6 obliquis, angulo acuto adscendentibus, gracilibus, elevatis, fere rectis, prope marginem conjunctis, nervulis obsoletis; flores terminales solitarii sessiles stipulis 2 involucrati; hypanthium late cylindraceum 3 mm. longum, calyce obsoleto; corolla alba, tubo gracili 7.5–8 cm. longo, prope medium 4 mm. lato, ad faucem paullo dilatato et 6 mm. lato, lobis 6 lanceolato-linearibus longe sensimque attenuatis patentibus 4–4.5 cm. longis, 4–5 mm. latis; stamina inclusa.—Peru: In dense forest, Pichis Trail, between San Nicolás and Azupizú, Dept. Junín, alt. 650–900 m., July 6, 1929, *E. P. Killip and A. C. Smith 26085* (Herb. Field Mus. No. 607,604, type).

The species is marked by its comparatively small and conspicuously veined leaves, and by the relatively long and narrow corolla lobes.

Rondeletia gonzaleoides, sp. nov.—Frutex, ramulis gracillimis subteretibus glabris, internodiis 5–6 cm. longis; stipulae persistentes erectae triangulares 2 mm. longae acuminatae glabrae; folia breviter petiolata opposita, petiolo gracili 5–7 mm. longo glabro; lamina membranacea lanceolato-oblonga 6–12.5 cm. longa, 2–3.5 cm. lata, subabrupte et longissime caudato-acuminata, acumine 1–2.5 cm. longo angusto sensim attenuato apice obtuso, basi acuta, glabra, supra viridis, nervis vix elevatis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 6, angulo latiusculo adscendentibus, gracillimis, arcuatis, prominulis, marginem fere attingentibus, nervulis laxe reticulatis; inflorescentia terminalis anguste thyrsoido-paniculata sessilis, basi foliis 2 reductis fulcrata, c. 14 cm. longa et basi 3.5 cm. lata, sublaxe multiflora, glabra, ramis brevibus adscendentibus secundifloris, bracteis persistentibus linearibus vel subulatis 0.5–3 mm. longis, floribus sessilibus vel vix 1 mm. longe pedicellatis; hypanthium ovali-oblongum c. 0.8 mm. longum; calyx 4-partitus, laciniis anguste triangularibus vel triangulari-oblongis c. 0.5 mm. longis acutis saepius patentibus; corolla alba glabra, tubo gracili 6 mm. longo, lobis 4 rotundatis 1.8 mm. longis apice late rotundatis intus glabris.—Mexico: Pueblo Nuevo, Chiapas, altitude about 2,200 m., in 1840, *J. Linden 149* (Leningrad Herbarium, type).

This plant belongs to the group *Laniflorae* (see N. Amer. Fl. 32: 45. 1918), which is characterized by a terminal narrow thyrsoid spikelike inflorescence, but in all the species previously ascribed to the group the corolla is variously pubescent outside, rather than glabrous, as in this plant. The type specimen is annotated by Hemsley, and determined as "*Gonzalea* sp." It was so listed by that author (Biol. Centr. Amer. Bot. 2: 32. 1881), with the data "Humid forests of Zulusuchiapas." The incorrect locality data must have been taken from a label with some other specimen of the same number, since the proper locality name is written rather plainly upon the label which I have seen, nor is there any mention of "humid forests."

The plant does bear some general resemblance to the genus *Gonzalagunia* (of which *Gonzalea* is a synonym), but evidently it is referable rather to *Rondeletia*. In that group it is noteworthy for the complete absence of pubescence.

Deppea stenosepala, sp. nov.—Frutex, ramulis gracilibus teretibus brunnescentibus vel ochraceis, glabris vel ad nodos sparse breviterque pilosis, internodiis plerumque 1–1.5 cm. longis; stipulae persistentes erectae triangulares acutae; folia petiolata opposita, petiolo gracili 6–11 mm. longo glabro vel glabrato; lamina membranacea oblongo-ovata vel lanceolato-oblonga, 4–7.5 cm. longa, 1.5–3.5 cm. lata, subabrupte longiacuminata, acumine angusto longe attenuato, basi acuta vel acuminata, supra viridis, glabra, nervis non elevatis, subtus paullo pallidior, tantum ad nervos minutissime puberula vel glabra, costa gracili elevata, nervis lateralibus utroque latere c. 6 gracillimis arcuatis, angulo acuto adscendentibus, prominulis, juxta marginem conjunctis, nervulis vix elevatis laxe reticulatis; inflorescentiae axillares cymoso-paniculatae c. 1 cm. longe pedunculatae laxae multiflorae foliis multo breviores, ramis pedicellisque glabris, bracteis persistentibus linearibus plerumque 1–3 mm. longis, pedicellis gracilibus glabris 1–4 mm. longis; hypanthium glabrum; calyx 4-partitus, laciniis linearibus persistentibus patentibus saepe subinaequalibus 3–4 mm. longis viridibus glabris; capsula ovali-globosa c. 5 mm. longa et 4 mm. lata leviter compressa bisulcata glabra basi rotundata brunnescens.—Mexico: Tlajico to Chicahuatla, Oaxaca, in 1844, *H. Galeotti* 2685 (Leningrad Herbarium, type).

The type material is decidedly fragmentary, but the characters exhibited are such as to leave no room for doubt that a very distinct new species is represented. It is easy of recognition because of the very long and narrow calyx segments.

Deppea Ehrenbergii, sp. nov.—Ramuli graciles subteretes luteo-virides glabri, internodiis 3.5–4 cm. longis; stipulae latissime triangulares subulato-acutae c. 1 mm. longae; folia petiolata opposita, petiolo gracili 1–2 cm. longo glabro; lamina membranacea elliptico-oblonga vel lanceolato-elliptica 10–15.5 cm. longa, 4–6 cm. lata, longe sensimque attenuato-acuminata, acumine acutiusculo, basin versus longe attenuata, glabra, supra laete viridis, costa venisque non elevatis, subtus luteo-viridis, pallidior, costa gracillima elevata, nervis lateralibus utroque latere c. 8 obliquis, angulo semirecto adscendentibus, prominulis, gracillimis, leviter curvis, prope marginem conjunctis, nervulis obscuris; inflorescentiae axillares usque ad 6 cm. longe pedunculatae laxissime multiflorae cymoso-paniculatae, usque ad 5.5 cm. longae et 9 cm. latae, ramis ut pedunculus gracillimis glabris subdivaricatis, bracteis minutis subulatis, floribus sparsis vel interdum subumbellatis, pedicellis gracilibus 2.5–6 mm. longis glabris; hypanthium late turbinatum 1 mm. longum glabrum, calyce ad basin 4-fido, laciniis triangularibus acutis 0.8 mm. longis; corolla 4.5 mm.

longa glabra in alabastro late obtusa, laciniis oblongis obtusis tubo plus quam duplo longioribus; capsula immatura 2.5 mm. longa basi acuta apice rotundata.—Mexico: Without definite locality, *C. Ehrenberg* 1318 (Herb. Berol., type).

Related to *D. obtusiflora* Benth. and *D. grandiflora* Schlecht., both of which have larger corollas. The leaves of *D. grandiflora* are pubescent beneath, and those of *D. obtusiflora* are much smaller than in *D. Ehrenbergii*.

Chimarrhis Williamsii, sp. nov.—Ramuli vetustiores teretes crassiusculi ferruginei vel cinnamomei, novellis subcompressis minute sericeis mox glabratiss, internodiis 1–4.5 cm. longis; stipulae caducae erectae lineari-lanceolatae 13–15 mm. longae longe angustaeque attenuatae extus dense sericeae; folia petiolata opposita, petiolo gracili 1–2 cm. longo minute ciliolato; lamina crasse papyracea obovata 5–11 cm. longa, 3–5 cm. lata, acuta vel breviter acuminata, interdum subobtusata, basin versus longe cuneatim angustata, supra in sicco fusca, minutissime denseque puncticulata, glabra, costa venisque non elevatis, subtus brunnescens, primo subdense et minutissime adpresso-pilosula, mox glabrata, in axillis costarum minute scrobiculata et breviter barbata, costa gracili elevata, nervis lateralibus utroque latere c. 11 obliquis, angulo acuto adscendentibus, suboppositis, gracillimis, prominulis, leviter curvis, juxta marginem conjunctis, venulis obscuris non elevatis; inflorescentia terminalis vel pseudoaxillaris cymoso-corymbosa 5–7 cm. longe pedunculata dense multiflora, basi vulgo trichotoma, 4–6 cm. longa, 6–9 cm. lata, ramis rigidis validis adscendentibus dense ferrugineo-puberulis, bracteis lineari-subulatis usque ad 4 mm. longis deciduis, floribus sessilibus vel 1–2 mm. longe pedicellatis; hypanthium late obovoideum glabrum vix 1 mm. longum, calyce late campanulato 0.6 mm. longo breviter 5-dentato, dentibus late triangularibus acutiusculis ciliolatis; corolla extus glabra 2.5–3 mm. longa in alabastro apice stylo subexserto umbonata, fere ad basin 5-fida, laciniis oblongis obtusis intus glabris; stamina corolla paullo longiora, antheris oblongis 0.8 mm. longis, filamentis crassiusculis dense barbatis.—Peru: Lower Río Nanay, Dept. Loreto, May 23, 1929, *Llewellyn Williams* 409 (Herb. Field Mus. No. 601,986, type), 369.

Vernacular name, "tuwara."

The proposed species is related to *C. cymosa* Jacq. and *C. Hookeri* Schum., the latter described from eastern Peru, but both those species have glabrous stipules. *C. Hookeri*, of which I have seen no material, is described as having a puberulent calyx and hypanthium.

Gonzalagunia bunchosioides, sp. nov.—Frutex, ramulis crassiusculis teretibus densissime pilis rigidis ferrugineis hispido-strigosis, internodiis elongatis usque ad 9 cm. longis; stipulae persistentes erectae 5–8 mm. longae e basi late triangulari longe angustaeque

attenuato-acuminatae dense strigosae; folia breviter petiolata opposita, petiolo 1–2.5 cm. longo gracili subtereti dense strigoso; lamina tenuiter membranacea ovata, oblongo-elliptica vel late elliptica, 11–26 cm. longa, 5.5–15 cm. lata, breviter vel longiuscule acuminata, basi acuta vel obtusa, interdum basin versus longe attenuata, supra viridis, sparse vel ad venas densius hispidula, saepe glabrata, costa venisque prominulis, subtus paullo pallidior, ubique breviter hispidula, interdum densissime pilis patentibus velutino-pilosula, costa gracili elevata, venis utrinque 9–14 angulo acuto adscendentibus, gracillimis, elevatis, arcuatis, venulis laxe reticulatis; paniculae spiciformes terminales 6–30 cm. longae et ultra, 1–4.5 cm. longe pedunculatae, remote multiflorae, rhachi gracili plus minusve flexuosa dense pilis fulvis rigidis subadpressis induta, floribus glomeratis sessilibus vel 1 mm. longe pedicellatis, bracteis viridibus paucis linearibus patentibus 3–7 mm. longis strigosis; hypanthium obovoideum 1.5 mm. longum dense pilis ochraceis adpresso-hispidulum; calyx 4-partitus, lobis ovalibus, late ovatis vel rotundatis, valde inaequalibus, 1–2 mm. longis, apice late rotundatis, viridibus, glabratis, persistentibus; corolla extus dense adpresso-pilosa in alabastro apice obtusa, tubo gracili 4–5 mm. longo, lobis 4 ovato-ovalibus 2–2.5 mm. longis apice rotundatis vel obtusis; bacca 4-locularis depresso-globosa 3.5–5 mm. lata dense adpresso-pilosula.—Peru (Department of Loreto): In forest, Pebas, on the Amazon River, July 26, 1929, *Llewelyn Williams 1772* (Herb. Field Mus. No. 604,569, type), 1597, 1910, 1680, 1756, 1794.

This species is noteworthy for the very large and broad leaves, with chiefly spreading pubescence. It is related to *G. panamensis* (Cav.) Schum., which has been reported from Peru but probably does not occur there. *G. panamensis* differs from the present plant in its much longer and more slender corolla and in its small, acute or acutish calyx lobes.

Isertia leiantha, sp. nov.—Ramuli crassi obtuse tetragoni subdense pilis brevibus adpressis albidis pilosuli, internodiis brevibus; stipulae persistentes 13–14 mm. longae triangulares tenues, extus glabrae vel glabratae, acuminatae, apice breviter bifidae; folia breviter petiolata opposita, petiolo crasso 1–3 cm. longo vel interdum fere nullo minute sericeo-strigilloso; lamina obovato-elliptica 19–35 cm. longa et ultra, 9.5–16 cm. lata, membranacea, abrupte breviterque acuminata, basi acuta vel interdum breviter acuminata vel contracta et decurrens, supra viridis, glabra, costa nervisque non elevatis, subtus pallida, sparse vel densius pilis minutis albidis adpressis pilosulis, ad venas densius induta, costa crassiuscula elevata, nervis lateralibus utroque latere c. 20, angulo lato adscendentibus, fere rectis, gracillimis, prominentibus, prope marginem arcuato-conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis thyrsoido-paniculata 3 cm. longe pedunculata, dense multiflora, 6–10 cm. longa, 5.5–7 cm. lata, ramis primariis rigidis compressis vel

angulatis sparse albido-strigosis vel scabris brevibus angulo lato patentibus, bracteis rigidis anguste triangularibus vel subulatis 4–6 mm. longis patentibus, floribus numerosissimis, alteris sessilibus, alteris 1–4 mm. longe pedicellatis; hypanthium hemisphericum calyce adjecto 3–4 mm. longum basi rotundatum, sparse scaberulum vel fere glabrum; calyx truncatus remote denticulatus, dentibus triangularibus acutis erectis; corolla (non perfecte evoluta) 3 cm. longa extus glabra, tubo gracili supra 4–5 mm. lato, lobis oblongo-ovatis 5 mm. longis obtusis ad margines minute puberulis.—Colombia: Peñas Blancas, Departamento de Antioquía, April 24, 1926, *S. Juzepczuk 4478* (Herb. Field Mus. No. 605,640, type; duplicates in Leningrad Herbarium).

This plant is similar in most respects to *I. Haenkeana* DC., which occurs in Colombia, but in that the corolla is puberulent or tomentulose.

Coccocypselum Krauseanum, sp. nov.—Herba repens ad nodos radicans, caulibus crassiusculis glabris 2–2.5 mm. crassis, internodiis valde elongatis; stipulae anguste lineares 4–5 mm. longae glabrae basi cum petiolis in vaginam brevissimam connatae; folia longe petiolata opposita, petiolo crassiusculo 1.5–5 cm. longo glabro; lamina tenuiter membranacea rotundato-ovata vel late ovata, 5–7 cm. longa, 3–5 cm. lata, acute acuta, basi breviter cordata vel rarius truncata, supra viridis, glabra, venis subimpressis, subtus paullo pallidior, sparse, ad venas densius, adpresso-pilosa vel glabrata, costa crassiuscula prominula, venis utroque latere c. 8, angulo lato adscendentibus, gracilibus, vix prominulis, arcte arcuatis, prope marginem conjunctis; inflorescentiae capitatae axillares solitariae sessiles vel usque ad 3.5 mm. longe pedunculatae dense multiflorae; bractee numerosae inaequilongae anguste lanceolatae vel subulatae sericeo-strigosae vel glabratae; hypanthium glabrum 1.5 mm. longum; calyx 4-partitus, laciniis lineari-attenuatis 3–4 mm. longis glabris vel sparse adpresso-pilosis; corolla rubra extus fere glabra, tubo crassiusculo 4 mm. longo, fauce abrupte dilatata 3.5 mm. longa, lobis latis obtusis vix 2 mm. longis prope apicem sparse hispidulis; bacca caerulea subglobosa 8–10 mm. longa glabra, calyce persistente coronata.—Brazil: Alto da Serra, São Paulo, in shady places, October 20, 1917, *F. C. Hoehne 754* (Herb. Berol., type).

The only other species with sessile inflorescence reported from Brazil by Schumacher in the *Flora Brasiliensis* is *C. aureum* Schlecht. & Cham., a very different plant with densely pubescent, narrow leaves. *C. Krauseanum* is not closely related to any other species of the genus known from Brazil.

The species is named for Dr. K. Krause, who has contributed so largely to our knowledge of the tropical American Rubiaceae. The writer is greatly indebted to him for the courteous loan of material for study purposes.

Coccocypselum Lyman-Smithii, sp. nov.—Herba perennis repens, caulibus gracillimis ramosis radicanibus usque ad 16 cm. longis dense pilis patentibus pallidis pilosis, internodiis plerumque 5–12 mm. longis; stipulae minutae pilis fere occultae c. 0.5 mm. longae; folia graciliter petiolata opposita, petiolo 1.5–3 mm. longo piloso; lamina herbacea orbicularis vel ovato-orbicularis 5–9 mm. longa et aequilata, apice obtusa vel late rotundata et apiculata, basi late rotundata, supra enervia, pilis longiusculis saepe fulvis et lucidis subadpressis densiuscule induta, subtus purpurascens, sparsius pilis longioribus patentibus pilosa, minute albido-puncticulata, costa nervisque paucis manifestis sed vix prominulis; flores axillares solitarii pedicellati, pedicellis gracilibus petiolis subaequilongis vel paullo longioribus dense villosopilosis, bracteolis linearibus 2–2.5 mm. longis obtusiusculis; hypanthium semiglobosum 1–1.5 mm. longum dense pilosum; calyx 4-partitus sparse villosulus, laciniis linearibus vel lineari-oblongis 1–1.5 mm. longis obtusis vel acutis erectis; corolla ut videtur violacea extus pilis longis albidis villosopilosa, tubo 5 mm. longo superne dilatato fauce 2 mm. lato, lobis 4 oblongis patentibus 2.5 mm. longis obtusis intus glabris; bacca immatura globosa 3 mm. longa sparse villosa.—Brazil: Vicinity of Macieras, Mt. Itatiaya, Estação Biologica, State of Rio de Janeiro, alt. 2,000 m., December 10, 1928, *Lyman B. Smith 1464* (Gray Herb., type).

In the genus *Coccocypselum* the flowers normally are capitate, but there is known one other species with solitary flowers, *C. uniflorum* Hassler, described from the Sierra de Amambay, Paraguay. In that species, however, the leaves are cordate and the lobes of the corolla are twice as long as the tube.

Coccocypselum glabrifolium, sp. nov.—Herba perennis, caulibus crassiusculis sparse ramosis, vetustioribus subteretibus interdum suffrutescentibus ochraceis, novellis glabris; stipulae persistentes e vagina brevissima lineari-subulatae, virides, 2–2.5 mm. longae, glabrae; folia petiolata opposita, petiolo crassiusculo 2–7 mm. longo glabro anguste marginato; lamina crassa ut videtur in vivo carnosa, late ovata vel elliptico-ovata, 15–20 mm. longa, 7–12 mm. lata, obtusa, basi acutiuscula vel abrupte breviterque contracta, utrinque glabra, supra viridis, costa non elevata, nervis fere occultis, subtus paullo pallidior, in sicco lutescens vel brunnescens, costa crassiuscula elevata, nervis lateralibus utroque latere 5–6, angulo acutissimo adscendentibus, subcurvis, prominulis, nervulis obsoletis; inflorescentiae terminales et ex axillis supremis nascentes, capitatae, dense multiflorae, 1.5–2.5 cm. longe pedunculatae, pedunculo gracili glabro, floribus sessilibus confertis, bracteis carnosiusculis linearibus vel anguste oblongis 6–9 mm. longis acutis viridibus glabris, interioribus brevioribus; hypanthium obovoideum glabrum; calyx 4-partitus, laciniis linearibus 4–5 mm. longis viridibus glabris; corolla caerulea extus glabra, tubo crasso supra paullo dilatato c. 10 mm. longo, ore 3 mm. lato, lobis 4 ovato-oblongis 3.5–4 mm. longis acutis patentibus; antherae semiexsertae;

bacca subglobosa glabra 5–6 mm. longa “subinflata, caerulea.”—Brazil: “In saxosis montis as furnas” (locality not satisfactorily legible), Province of São Paulo, March, 1826, No. 346 (name of collector uncertain, not given on the label; type in the Leningrad Herbarium).

The plant is quite distinct from all the *Coccocypselum* species recorded from Brazil, being easily recognized by the complete absence of pubescence.

Coccocypselum Condalia Pers. Syn. Pl. 1: 132. 1805.

No specimens of this species from Colombia had been seen when the list of the Rubiaceae of that country was prepared. The following specimen has come to hand recently: Colombia: Sucre, Territorio del Caquetá, August, 1926, *S. Juzepczuk 6509* (Leningrad Herb.).

Pentagonia Woronovii, sp. nov.—Ramuli in sicco fere 1 cm. crassi fusco-brunnei glabri vel ad nodos sparse sericeo-strigosi, internodiis brevibus; stipulae caducae lineari-lanceolatae 3–4 cm. longae longe attenuatae extus sparse sericeo-strigosae; folia petiolata opposita, petiolo gracili 5–8 cm. longo subtereti sparse griseo-sericeo; lamina crasse membranacea oblongo-elliptica vel obovato-oblonga, interdum obovato-elliptica, 29–50 cm. longa, 10–21 cm. lata, acuta vel breviter acuminata, basin versus angustata, basi ipsa acuta vel acutiuscula, integra, supra laete viridis, glabra, costa nervisque vix elevatis, subtus pallidior, sparse piloso-sericea et ad nervos dense adpresso-pilosa, costa gracili elevata, nervis lateralibus utroque latere c. 22, angulo acuto adscendentibus, rectis, gracilibus, prominentibus, latere exteriori ramulos breves 1 vel 2 emittentibus, pagina inter nervos pulchre lineolata; inflorescentiae axillares cymosae, cymis brevissime pedunculatis dense multifloris petiolo brevioribus, pedicellis usque ad 2 mm. longis breviter sericeis, bracteis deciduis; hypanthium 4–5 mm. longum oblongum densissime sericeum; calycis limbus 2–2.5 cm. longus in alabastro clausus, longe attenuatus, in anthesi uno latere fissus, extus dense griseo-sericeus; corolla extus glabra, tubo 2.5 cm. longo 7 mm. crasso, lobis 5 late ovatis 6–7 mm. longis acutis; bacca globoso-ovoidea 2–2.5 cm. longa et fere 2 cm. lata, calyce persistente coronata, sparse puberula, lenticellis magnis elevatis brunneis conspersa.—Colombia: Hetuchá ad Río Orteguaza, Quebrada de Hetuchá, Territorio del Caquetá, July 20, 1926, *G. Woronow and S. Juzepczuk 6079* (Herb. Field Mus. No. 605,667, type; duplicate in Leningrad Herb.). Florencia, Territorio del Caquetá, July 13, 1926, *Woronow & Juzepczuk 5941* (Field Mus., Leningrad Herb.).

Related, evidently, to *P. peruviana* Standl., which has similar leaves and flowers. In that species, however, the petioles are much shorter, the stipules larger, and the lateral veins of the leaves less numerous.

Pentagonia peruviana Standl. Field Mus. Bot. 4: 326. 1929.

In publishing this species, its country, through some oversight, was given as "Peru." The Río Pastaza, however, lies in a region which usually is admitted to be a part of Ecuador. The specific name is, therefore, markedly inappropriate, but there is apparently no authority for changing it to some more fitting one.

Pentagonia Williamsii, sp. nov.—Frutex; folia brevissime petiolata, petiolo c. 3 cm. longo crasso dense breviterque hirsuto; lamina crasse papyracea anguste oblongo-oblancheolata, 81 cm. longa et ultra, 16–18 cm. lata, longiuscule acuminata, versus basin longissime sensimque attenuata, supra viridis, glabra, costa nervisque non elevatis, sublucida, subtus in sicco brunnescens, ubique dense molliterque pilis patentibus pilosa, costa crassa elevata, nervis lateralibus utroque latere c. 32, angulo latiusculo adscendentibus, fere rectis, gracilibus, prominentibus, marginem fere attingentibus, latere inferiore prope marginem ramulos 1 vel 2 breves emittentibus, pagina inter nervos crebre lineolata; flores in axillis dense cymoso-congesti, inflorescentiis sessilibus, floribus sessilibus numerosis, bracteis late oblongis 1.5–2 cm. longis acutis vel obtusiusculis in sicco ferrugineis versus basin sparse pilosis vel glabratis striolatis; hypanthium 4 mm. longum oblongum dense adpresso-pilosum; calyx 18–20 mm. longus ad medium bilobus, segmentis oblongis obtusis, extus sparse pilosus vel fere glaber; corolla extus glabra, tubo 25–32 mm. longo 4 mm. crasso, lobis 5 patentibus 4–5 mm. longis late ovatis acutis.—Peru: Pebas, on the Amazon River, Dept. Loreto, July 30, 1929, *Llewelyn Williams* 1949 (Herb. Field Mus. No. 604,516, type).

The species is a strikingly distinct one, well marked by the very long and narrow leaves with dense, soft, spreading pubescence.

Hoffmannia villosula, sp. nov.—Suffrutex 60–100 cm. altus ut videtur simplex, caulibus crassiusculis obtuse tetragonis viridibus, novellis sparse villosulis, internodiis plerumque 1.5–2.5 cm. longis; folia longiuscule petiolata opposita, petiolo crassiusculo 1.2–3 cm. longo sparse villosulo; stipulae breves triangulares caducae c. 2 mm. longae; lamina membranacea elliptico-oblonga vel late oblongo-lanceolata, 9–15.5 cm. longa, 4–6 cm. lata, longe acuminata, basin versus longe sensimque angustata, supra laete viridis, sparsissime pilis longis debilibus ut videtur patentibus villosa, costa venisque vix prominulis, subtus pallida, praesertim ad venas villosula, ubique dense raphidibus brevibus parvis pallidis conspersa, costa crassiuscula, venis utroque latere c. 10, angulo lato adscendentibus, arcuatis, prominulis, gracillimis, juxta marginem anastomosantibus; flores subumbellati e nodis defoliatis infra folia nascentes, umbellis 2–3-floris 3–9 mm. longe pedunculatis solitariis, pedicellis gracilibus 4–5 mm. longis in statu fructifero glabris; calyx 4-partitus, laciniis 1.2 mm. longis ad apicem baccae persistentibus, lineari-attenuatis erectis villosulo-ciliatis; bacca rosea vel rubra ovalis 6–7 mm. longa basi

rotundata glabra; semina minuta grosse foveolata fusco-ferruginea.—Peru: In dense forest, Schunke Hacienda above San Ramón, Dept. Junín, alt. 1,400–1,700 m., June 8–12, 1909, *E. P. Killip and A. C. Smith 24817* (Herb. Field Mus. No. 607,888, type); also No. 24544 (U. S. Nat. Herb.).

Conspicuously different from the few other species known from Peru, but closely related to *H. viridis* Rusby, of northwestern Colombia, which has glabrous leaves.

Posoqueria huilensis, sp. nov.—Glabra; ramuli crassi subteretes, internodiis elongatis; stipulae subpersistentes 1.5–2 cm. longae, late ovatae vel rotundatae, erectae, apice rotundatae; folia breviter petiolata opposita, petiolo crasso 1–1.5 cm. longo supra sulcato; lamina crasse membranacea vel papyracea fere orbicularis vel late elliptica (folia minora interdum elliptica, c. 12 cm. longa et 7.5 cm. lata), 23–26 cm. longa, 16–22 cm. lata, apice late rotundata et interdum brevissime obtusae protracta, basi late rotundata vel obtusa, supra laete viridis, lucida, costa nervisque vix elevatis, subtus paullo pallidior, costa crassiuscula prominente, nervis lateralibus utroque latere c. 9, angulo acuto adscendentibus, gracilibus, prominentibus, arcuatis, prope marginem conjunctis, nervulis obscuris; flores perfecti non visi; corolla extus glabra, tubo gracili 10–11.5 cm. longo 4 mm. crasso, lobis late oblongis patentibus obtusis inaequalibus 2–2.5 cm. longis intus prope basin dense villosis; filamenta c. 1 cm. longe exserta, antheris anguste oblongis 8 mm. longis acutis vel acuminatis.—Colombia: La Resina, Departamento de Huila, August 21, 1926, *S. Juzepczuk 6578* (Herb. Field Mus. No. 605,651, type; duplicate in Leningrad Herbarium).

In the shape and size of its leaves this species is much like *P. maxima* Standl., described recently from Colombia, but in that the corolla tube is 29 cm. long, and the lobes 4–4.5 cm. in length.

Amaioua ursina, sp. nov.—Frutex vel arbuscula usque ad 5 m. alta, ramulis crassis obtuse tetragonis dense fulvo-hirsutis, internodiis brevibus vel elongatis; stipulae tenues deciduae dense hirsutae 1 cm. longae et ultra; folia breviter petiolata opposita, petiolo crasso 4–16 mm. longo hirsuto; lamina coriacea ovali-elliptica, elliptico-oblonga vel oblongo-obovata, 14–26 cm. longa, 6–13 cm. lata, apice obtusa vel rotundata et brevissime caudato-acuminata, acumine c. 7 mm. longo obtuso, basi acuta vel basin versus sensim angustata, supra in sicco brunnescens, lucida, sparse praesertim ad venas hispido-hirsuta, costa venisque prominentibus, subtus fere concolor, ubique vel tantum ad venas hirsuta, costa gracili elevata, nervis lateralibus utroque latere c. 13 obliquis, angulo semirecto abeuntibus, gracilibus, elevatis, fere rectis, juxta marginem obscure conjunctis, venulis tenerrimis inconspicuis subparallelis; flores masculi ad apices ramorum dense umbellati numerosi brevissime pedicellati, pedicellis dense

hispidis; calyx campanulatus 4 mm. longus et aequilatus dense minutique sericeus versus basin hispidulus truncatus; corolla alba, tubo crassiusculo 8–10 mm. longo extus dense retrorso-sericeo ore subconstricto, lobis lanceolato-oblongis 7–8 mm. longis subacutis extus dense tomentellis intus glabris.—British Guiana: Kamakusa, upper Mazaruni River, July 11–22, 1923, *J. S. De La Cruz* 4169 (Herb. Field Mus. No. 544,753, type). Waini River, Northwest District, April, 1923, *De La Cruz* 3800.

From *A. guianensis* Aubl. and *A. corymbosa* HBK., both of which occur in British Guiana, the present plant is easily distinguished by its coarse, widely spreading pubescence. *A. pilosa* Schum., which has somewhat similar pubescence on the branches, has small leaves and an altogether different calyx.

***Randia Williamsii*, sp. nov.**—Frutex, ramulis novellis subcompressis dense pilis brevibus subadpressis ochraceis vel cinereis hispidulis, internodiis brevibus; stipulae erectae persistentes triangulari-ovatae 7 mm. longae subulato-acuminatae; folia breviter petiolata opposita, petiolo crassiusculo 4–9 mm. longo adpresso-hispidulo; lamina membranacea anguste oblonga vel lanceolato-oblonga 11–23 cm. longa, 4–6 cm. lata, longe sensimque acuminata, basi acuta, supra in sicco cinereo-viridis vel subfusca, glabra, costa venisque planis, subtus fere concolor, pilis brevibus rigidulis patentibus vel subadpressis sparse pilosa, costa gracili elevata, nervis lateralibus utroque latere c. 13 obliquis, angulo semirecto vel latiore abeuntibus, gracilibus, prominentibus, arcuatis, prope marginem conjunctis, nervulis inconspicuis; flores terminales solitarii sessiles; hypanthium cylindraceum 8 mm. longum ut calyx dense adpresso-hispidum, calycis tubo cylindraceo 1 cm. longo, laciniis 5 filiformibus 1.5 cm. longis erectis; corolla alba, tubo gracillimo 20–23 cm. longo 4 mm. crasso extus glabro supra vix dilatato, laciniis lineari-lanceolatis c. 6.5 cm. longis et 1 cm. latis extus sparse adpresso-pilosulis intus glabris longissime et anguste attenuatis; styli rami breviter exserti crassi; bacca oblongo-ovalis 5 cm. longa, 2.5 cm. lata, 2-locularis, basi et apice rotundata, glabrata, fere laevis.—Peru: In forest, La Victoria on the Amazon River, Dept. Loreto, August 19, 1929, *Llewelyn Williams* 2538 (Herb. Field Mus. 604,483, type), 2531.

This plant might be referred to *R. formosa* (Jacq.) Schum. var. *longiflora* Schum., which was based upon Peruvian material. In that, however, the corolla is densely pilose outside, and the leaves are much smaller and relatively broader. The present plant can scarcely be considered a mere variant of *R. formosa*, for it differs greatly from the usual forms of that species in its much elongate and narrow leaves and in its extraordinarily elongate corolla. It is probable that var. *longiflora* also deserves specific rank.

Randia Killipii, sp. nov.—Frutex vel arbor 2.5–9 m. alta inermis, ramulis gracilibus, vetustioribus ferrugineis rimosis, novellis densissime pilis brevibus cinereis adscendentibus pilosis, internodiis abbreviatis vel elongatis; stipulae persistentes erectae ovato-triangulares vel lanceolato-triangulares 5–10 mm. longae longe attenuato-acuminatae extus dense adpresso-pilosae; folia breviter petiolata opposita, petiolo gracili 1–1.5 cm. longo dense velutino-piloso; lamina membranacea elliptica, late elliptica, vel obovato-elliptica, 11–14 cm. longa, 6–7 cm. lata, abrupte acuta vel breviter acuminata, acumine apice obtuso vel rotundato, basi acuta vel obtusa, supra in sicco fusco-viridis, dense asperulo-puberula, costa venisque vix prominulis, subtus fere concolor, ubique dense asperulo-puberula vel velutino-pilosula, costa gracili elevata, nervis lateralibus utroque latere c. 10 obliquis, angulo latiusculo abeuntibus, gracillimis, prominentibus, arcuatis, prope marginem conjunctis, nervulis inconspicuis laxe reticulatis; flores masculi ad apices ramorum pauci capitati sessiles; hypanthium 1.5 mm. longum late turbinatum ut calyx dense sericeum, calyce late campanulato truncato 1.5 mm. longo; corolla alba extus subdense puberula vel hirtella, tubo 3 cm. longo 4–5 mm. lato intus glabro fauce subconstricto, laciniis anguste lanceolato-oblongis 3.5 cm. longis 1 cm. latis acuminatis intus glabris; antherae lineares 7 mm. longae 1 cm. supra basin tubi insertae; bacca globosa 2.5 cm. diam. laevis glabrata 4-locularis, seminibus paucis magnis angulatis c. 8 mm. diam.—Peru: In dense forest, San Antonio, on Río Itaya, Dept. Loreto, alt. 110 m., September 18, 1929, *E. P. Killip and A. C. Smith 29495* (Herb. Field Mus. No. 607,593, type). Pichis Trail, Eneñas, Dept. Junín, alt. 1,600–1,900 m., in dense forest, *Killip & Smith 25643*. Soledad, on Río Itaya, Dept. Loreto, 110 m., in dense forest, *Killip & Smith 29716*.

A well-marked species of doubtful relationship.

Alibertia stenantha, sp. nov.—Frutex, ramulis gracilibus subteretibus glabris, novellis interdum subcompressis, internodiis plerumque elongatis; stipulae erectae persistentes lanceolato-triangulares 7–8 mm. longae glabrae subulato-attenuatae; folia breviter petiolata opposita, petiolo gracili glabro supra sulcato 1–1.8 cm. longo; lamina membranacea oblongo-elliptica vel elliptica 15–23 cm. longa, 5.5–10 cm. lata, abrupte caudato-acuminata, acumine angusto longe attenuato saepe 2–3 cm. longo, basi acuta vel interdum rotundata et abrupte breviterque decurrens, supra fusco-viridis, glabra, costa venisque prominulis, subtus concolor, in axillis costarum secundariorum breviter albo-barbata, aliter glabra, costa gracili elevata, nervis lateralibus utroque latere c. 9 obliquis, angulo fere semirecto abeuntibus, tenerrimis, prominentibus, leviter arcuatis, prope marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentiae masculae terminales cymosae sessiles congestae multiflorae petiolum vix aequantes, ramis brevibus puberulis, bracteis minutis subulatis pallidis pubescentibus, floribus breviter pedicellatis; hypanthium turbinatum 1 mm. longum ut calyx sparse minuteque puberulum vel

fere glabrum, calyce late campanulato 1–1.5 mm. longo, laciniis lineari-subulatis 1–1.5 mm. longis suberectis; corolla extus glabra, tubo anguste cylindraceo 7–8 mm. longo fauce dense barbato, supra non dilatato, laciniis 5 patentibus lineari-subulatis revolutis angustissime attenuatis tubo aequilongis intus glabris; flores feminei terminales solitarii 0.5–2 cm. longe pedicellati; calyce truncato, laciniis remotis subulatis 1 mm. longis, corolla in alabastro 11 mm. longa extus glabra, tubo ut videtur fere nullo, laciniis longissime attenuatis; bacca globosa glabra 1.5–2 cm. diam.—Peru: La Victoria on the Amazon River, in forest, September 5, 1929, *Llewelyn Williams* 3117 (Herb. Field Mus. No. 604,442, type), 2941, 3116, 2833. Leticia, on the Amazon River, Dept. Loreto, in forest, *Williams* 3168, 3163, 3154. In forest, Caballo Cocha, on the Amazon River, Dept. Loreto, *Williams* 2225.

Malanea sarmentosa Aubl. Pl. Guian. 1: 106. pl. 41. 1775.

This species of the Guianas is not reported from Brazil in the *Flora Brasiliensis*, but the following collection seems to be identical with material from French and British Guiana: Brazil: Belem, State of Pará, in 1929, *B. E. Dahlgren & E. Sella* 728.

Appunia guatemalensis Donn. Smith. This lone representative of a genus otherwise confined to northern South America seems to be rare in Guatemala, from which it was described. A recent collection shows that its range extends to British Honduras: Stann Creek Railway, in open swampy forest, a shrub a meter high, the stem 3.5 cm. in diameter, flowers white, fruit black, December, 1929, *W. A. Schipp* S65.

Guettarda ferox, sp. nov.—Rami obtuse quadrangulares crassi cinerei vel ochracei, ad nodos spinis 2 crassis abrupte recurvis 2–3 cm. longis basi incrassatis armati, ramulis novellis crassiusculis dense pilis brevibus brunnescentibus patentibus velutino-pilosis, internodiis brevibus; stipulae deciduae suberectae ovatae c. 8 mm. longae acuminatae extus dense velutino-pilosae; folia breviter petiolata opposita, petiolo crasso 6–10 mm. longo dense pilosulo; lamina crasse membranacea oblonga vel elliptico-oblonga 10–15 cm. longa, 4–6.5 cm. lata, abrupte breviterque acuminata, acumine triangulari obtuso, basi obtusa vel anguste rotundata, basi ipsa interdum brevissime cordata, supra in sicco fusco-viridis, glabrata, ad costam puberula, sublucida, costa venisque prominulis, subtus paullo pallidior, mollis, ubique dense pilis longiusculis subadpressis fulvis rigidiusculis pilosa, costa gracili elevata, nervis lateralibus utroque latere c. 10 obliquis, angulo angusto valde adscendentibus, arcuatis, prominentibus, gracilibus, venulis transversis crebris prominulis subparallelis; inflorescentiae axillares solitariae cymosae dense pauciflorae 1.5–2.2 cm. longe pedunculatae, cymis subcapitatis vel breviter furcatis, ramis vix 5 mm. longis densissime pilosulis; drupae ovaes vel late oblongae

15–18 mm. longae, c. 1 cm. latae, densissime brunneo-tomentosae, 4-loculares; calyx ad apicem drupae persistens tubulosus truncatus 3–4 mm. longus dense adpresso-pilosus.—Peru: In forest, Pinto Cocha on the Río Nanay, Dept. Loreto, June 16, 1929, *Llewellyn Williams* 808 (Herb. Field Mus. No. 604,671, type).

This appears to be a quite distinct species, not closely similar to any other known from Peru. The large, abruptly deflexed spines probably indicate that the plant is scandent in habit.

Guettarda pichisensis, sp. nov.—Frutex 3–3.5 m. altus, ramulis gracilibus teretibus ubique dense griseo-sericeis, internodiis valde elongatis; stipulae mox deciduae tenues sordide brunnescentes 15–20 mm. longae oblongae erectae acutae extus praesertim basi ad costam strigoso-sericeae, petiolis multo breviores; folia longe petiolata opposita, petiolo gracillimo 1.5–5.5 cm. longo dense sericeo; lamina membranacea ovata, elliptico-oblonga vel lanceolato-oblonga, 16–25 cm. longa, 6–11 cm. lata, longe acuminata, acumine angusto longe attenuato interdum subfalcato, basin versus longissime sensimque attenuata, supra viridis, densiuscule strigilloso-sericea vel serius glabrata, costa venisque prominulis, subtus pallidior, ubique pilis brevibus griseis sericea, costa gracili elevata, nervis lateralibus utroque latere c. 12–16 obliquis, angulo angusto valde adscendentibus, gracillimis, arcuatis, prominentibus, prope marginem conjunctis, venulis crebris transversis subparallelis; inflorescentiae axillares et e nodis defoliatis nascentes, solitariae, furcatae, petiolis multo breviores, 7–12 mm. longe pedunculatae, ramis 2 gracilibus dense minuteque sericeis 1–2 cm. longis, rare furcatis, dense 5–7-floris, bracteis deciduis, floribus secundis arcte sessilibus; drupae late oblongae 5–6 mm. longae et 3–4 mm. latae, densissime et minutissime ochraceo-sericeae, acute 4-angulatae, basi late rotundatae, apice subtruncatae et calyce minuto persistente truncato coronatae, 4-loculares.—In dense forest, Pichis Trail between San Nicolás and Azupuzú, Dept. Junín, alt. 650–900 m., July 6, 1929, *E. P. Killip* and *A. C. Smith* 26104 (Herb. Field Mus. No. 607,605, type).

In most characters this plant agrees with the descriptions of *G. dependens* (R. & P.) DC. and *G. ochreatea* Schlecht., both of which were described from Peru. I have seen no material certainly referable to either of these species, in which the petioles are described as being very short. The species are described as differing also in various minor characters, and it seems necessary, for the present at least, to consider the plant here described as representing a different species.

Chomelia unguis-cati, sp. nov.—Frutex vel arbor, ramulis crassis, vetustioribus fusco-ferrugineis ad nodos spinis 2 divaricatis gracilibus 1.5 cm. longis interdum munitis, novellis ferrugineis vel brunneis dense pilis fulvis rigidiusculis adpresso-pilosis, internodiis abbreviatis; stipulae triangulares caducae 6–7 mm. longae subulato-acuminatae ferrugineae dorso adpresso-pilosae; folia breviter petio-

lata opposita, petiolo 10–18 mm. longo dense strigoso vel glabrato gracili; lamina subcoriacea ovato-oblonga vel elliptico-oblonga 7.5–19 cm. longa, 3–5.5 cm. lata, acuta vel acuminata, basin versus breviter angustata, interdum abrupte contracta et breviter decurrens, supra glabra vel ad costam puberula, lucida, costa venisque prominulis, venulis subimpressis, subtus vix pallidior, ad costam venasque strigosa vel glabrata, aliter glabra, costa gracili valde elevata, nervis lateralibus utroque latere c. 4 angulo acuto valde adscendentibus, gracilibus, elevatis, fere rectis, juxta marginem conjunctis, venulis transversis creberrimis subimpressis subparallelis; inflorescentiae axillares solitariae dense cymosae, cymis fere capituliformibus paucifloris 5 cm. longe pedunculatis, pedunculis rigidis dense ochraceo-strigosis, bracteis numerosis persistentibus subulatis vel linearibus plerumque 5–7 mm. longis sparse strigosis, floribus sessilibus vel brevissime pedicellatis; drupae anguste oblongae 17–22 mm. longae, c. 6 mm. latae, adpresse fulvo-pilosae, basi et apice obtusae, biloculares; calyx ad apicem baccae persistens 6–7 mm. longus extus strigosus, laciniis 4 rigidis lineari-attenuatis erectis tubo duplo longioribus.—Peru: Timbuchi, on the Río Nanay, Dept. Loreto, June 26, 1929, *Llewelyn Williams* 991 (Herb. Field Mus. No. 604,689, type).—Bolivia: Junction of the rivers Beni and Madre de Dios, August, 1886, *Rusby* 1878.

Called “garras de gato” and “anzuelo casha” in Peru.

Ixora escalerae, sp. nov.—Frutex vel arbuscula 2–5-metralis, ramulis gracilibus obtuse tetragonis subdense strigillosis, internodiis 2.5–3 cm. longis; stipulae erectae persistentes 4–5 mm. longae e basi brevi triangulari lineari-subulatae strigillosae; folia breviter petiolata opposita, petiolo gracili 1–1.5 cm. longo dense fulvo-strigilloso; lamina firme membranacea oblongo-elliptica vel lanceolato-oblonga 10–18 cm. longa, 4–7 cm. lata, acuminata, basi acuta vel acutiuscula, supra viridis, ad costam prominulam et ad venas non elevatas adpresso-hispidula, aliter glabra vel glabrata, subtus paullo pallidior, ad costam gracilem elevatam et ad venas sparse strigillosa, aliter glabra vel glabrata, nervis lateralibus utroque latere c. 12 gracillimis obliquis, angulo lato adscendentibus, infimis interdum perpendicularibus, subarcuatis vel fere rectis, prope marginem conjunctis, venulis tenuibus prominentibus laxe reticulatis; inflorescentia terminalis laxe ovoideo-paniculata, c. 9 cm. longa et 7 cm. lata, 2.5 cm. longe pedunculata, multiflora, basi trichotoma, ramulis gracilibus adscendentibus minute fulvo-strigillosis, bracteis subulatis extus strigillosis 1–2 mm. longis, floribus cymosis, pedicellis gracilibus rectis 3–5 mm. longis minute puberulis vel strigillosis; hypanthium late obovoideum 1.5 mm. longum basi angustatum sparsissime et minute puberulum vel fere glabrum, calyce subtruncato fere 1 mm. longo, remote et minute 5-denticulato; corolla alba extus minute pulverulacea in alabastro late obtusa, tubo gracili 7–8 mm. longo, 1 mm. lato, lobis 5 oblongis obtusis 4 mm. longis patentibus; antherae inclusae.—Peru: Cerro de la Escalera, Dept. Loreto, alt. 1,200 m., February, 1903, *E. Ule* 6778 (Herb. Berol., type).

Ixora Killipii, sp. nov.—Arbor 3.5–5.5 m. alta, ramulis vetustioribus teretibus ochraceis rimosis, novellis gracilibus in sicco fuscis, internodiis c. 3–4 cm. longis glabris; stipulae erectae persistentes in vaginam 1.5–2 mm. longam glabram connatae, lobis brevibus late rotundatis in mucronem 2.5–3 mm. longum desinentibus; folia subsessilia opposita, petiolo crasso vix 2 mm. longo; lamina firme membranacea oblongo-elliptica 8.5–15 cm. longa, 4–7 cm. lata, abrupte acuminata, acumine anguste triangulari cuspidato, basin versus breviter angustata, basi ipsa obtusa vel anguste rotundata, glabra, in sicco fusca, supra lucidula, costa venisque prominulis, venulis quoque prominulis et reticulatis, costa subtus elevata gracili, nervis lateralibus utroque latere c. 9 gracilibus prominulis, angulo lato divergentibus, infimis interdum angulo angusto adscendentibus, leviter curvis, prope marginem conjunctis, venulis prominulis arcte reticulatis; inflorescentia terminalis cymoso-paniculata laxa pauciflora 1–2.5 cm. longe pedunculata foliis multo brevior (perfecta non visa), basi foliis 2 reductis fulcrata, ramis gracilibus teretibus rigidis, floribus in cymulas plerumque trifloras laxas dispositis, bracteis minutis subulatis, pedicellis c. 7 mm. longis; hypanthium glabrum obovoideum 2.5 mm. longum, calyce 2 mm. longo ad medium 4-fido, lobis triangularibus acuminatis; corolla viridi-alba extus glabra, tubo gracillimo 2.5 cm. longo 1 mm. crasso, lobis 4 lineari-lanceolatis acutis vel acuminatis intus glabris patentibus vel recurvis 1.5 cm. longis; antherae subexsertae 3 mm. longae anguste oblongae.—Peru: In dense forest, Pichis Trail, Santa Rosa, Dept. Junín, alt. 625–900 m., July 6–7, 1929, *E. P. Killip and A. C. Smith 26148* (U. S. Nat. Herb., type).

Killip & Smith 27643, from Yurimaguas, Dept. Loreto, at 135 m., is probably conspecific. It is in fruit only, and in poor condition. The collectors describe it as a shrub of 3–3.5 m. with black fruit.

Coussarea Duckei, sp. nov.—Frutex 2–3-metralis, ramulis teretibus laevibus pallidis glabris, internodiis elongatis; stipulae deciduae, non visae; folia arcte sessilia opposita subcoriacea glabra ovata vel ovato-oblonga 10–17 cm. longa, 4.5–7.5 cm. lata, abrupte longi-acuminata, acumine angusto longe attenuato, basi cordata, lobis basalibus late rotundatis, supra luteo-viridis, costa venisque prominentibus, subtus pallidior, costa gracili vel crassiuscula elevata, nervis lateralibus utroque latere c. 10 pallidis, angulo fere recto patentibus, inaequalibus, prominentibus, gracilibus, fere rectis, remote a margine conjunctis, nervulis prominulis pallidis laxae reticulatis; inflorescentia terminalis 3 cm. longe pedunculata, breviter spiciformis, corollis exclusis 1.5 cm. longa et 1 cm. lata, densissime multiflora, bracteis obsoletis, floribus secus spicam dense fasciculatis sessilibus; hypanthium late turbinatum 1.5 mm. longum minutissime puberulum, calyce campanulato 0.8 mm. longo truncato; corolla alba extus minute puberula in alabastro 22 mm. longa apice obtusa, tubo gracillimo superne sensim dilatato in fauce c. 2 mm. lato, lobis oblongis obtusis 5–6 mm. longis.—Brazil: Insula Goyana sub cataractam infimam Río

Tapajoz, State of Pará, in forests which are scarcely or seldom flooded, October 16, 1922, *A. Ducke 18846* (Herb. Berol., type).

The plant is of striking appearance because of its large, sessile, heart-shaped leaves. The short spicate inflorescence also is distinctive. The species does not seem to have a close resemblance to any other listed for Brazil.

Coussarea Urbaniana, sp. nov.—Glabra, ramulis crassis subteretibus olivaceis, internodiis 2–5 cm. longis; stipulae deciduae (perfectae non visae) 1.5 cm. longae et ultra; folia breviter petiolata opposita, petiolo crassiusculo 7–15 mm. longo; lamina subcoriacea elliptica vel late elliptica 11–17 cm. longa, 4–9.5 cm. lata, abrupte acuminata, acumine triangulari anguste attenuato c. 2 cm. longo, basi acuta, supra sublucida, costa venisque prominulis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 10 angulo lato abeuntibus, pallidis, gracilibus, prominentibus, leviter curvis vel fere rectis, prope marginem arcuato-conjunctis, nervulis prominulis laxe reticulatis; flores in cymulas dispositi, sessiles vel breviter pedicellati, pedicellis crassis; baccae oblongo-ellipsoideae c. 12 mm. longae et 6 mm. latae laeves basi et apice obtusae, calyce persistente 1 mm. longo subtruncato.—Cuba: Prov. Oriente, Baracoa ad El Yunque in pinetis, November 20, 1914, *E. L. Ekman 3547* (Herb. Field Mus. No. 604,902, type).

The available specimen is in poor condition for study, consisting of a leafy branch with only a detached portion of an inflorescence. There is no doubt, however, that the plant represented belongs to the genus *Coussarea*, a group which has not been reported previously from the West Indies except from the islands lying close to the South American coast.

Coussarea hirticalyx, sp. nov.—Frutex vel arbor 3–7.5 m. alta, ramulis crassis, vetustioribus obtuse tetragonis ochraceis rimosis, novellis fuscis glabris; stipulae caducae, non visae; folia petiolata opposita, petiolo gracili 1.5–2.5 cm. longo supra leviter sulcato dense hispidulo-ciliato; lamina membranacea vel firme membranacea late elliptica vel elliptico-oblonga 14–20 cm. longa, 6–9.5 cm. lata, apice obtusa vel acutiuscula et abrupte caudato-acuminata, acumine 1–2.5 cm. longo angusto saepe fere lineari acuto, basi acuta vel obtusa, supra in sicco fusca, sublucida, ad costam minute hirtella vel fere omnino glabra, costa venisque non elevatis, subtus paullo pallidior, ad costam venasque sparse hispidula, aliter glabra, costa gracili elevata, nervis lateralibus utroque latere c. 10 obliquis, angulo lato vel angusto adscendentibus, gracillimis, prominentibus, leviter arcuatis vel fere rectis, juxta marginem conjunctis; inflorescentia terminalis ovoideo-paniculata 6–9 cm. longa et 5–9 cm. lata, 2–5.5 cm. longe pedunculata, laxe multiflora, ramis crassis compressis minute sericeis vel glabratibus, ramis basalibus oppositis vel ternatis 1.5–2.5

cm. longis divaricatis, cymis densis, cymulis densis 6–8-floris et ultra, floribus sessilibus vel brevissime crasseque pedicellatis; hyparthium oblongum c. 2 mm. longum densissime ochraceo-sericeum, calyce tubuloso 2–2.8 mm. longo truncato vel obsolete repando-denticulato sparse praesertim prope orem hispidulo; corolla alba extus minutissime denseque puberula, tubo filiformi 2 cm. longo superne vix dilatato ore 1.6 mm. lato, lobis 4 oblongo-linearibus 5–6 mm. longis patentibus obtusis; stylus filiformis saepe breviter exsertus supra sparse furfuraceo-puberulus, ramis brevibus gracillimis.—Peru: La Victoria, on the Amazon River, Dept. Loreto, in forest, August 19, 1929, *Llewelyn Williams 2528* (Herb. Field Mus. No. 604,476, type). Caballo Cocha, on the Amazon, Dept. Loreto, August, 1929, in forest, *Williams 2504, 2406*. Iquitos, Dept. Loreto, 100 m., in woods, August, 1929, *Killip & Smith 27191, 27198*.

Related to *C. tenuiflora* Standl., also Peruvian, but that species lacks the conspicuous spreading setulose hairs present on the calyx of *C. hirticalyx*.

Faramea grandifolia, sp. nov.—Glabra; ramuli validi ad nodos c. 1 cm. crassi olivacei in sicco plus minusve compressi, internodiis elongatis; folia maxima breviter petiolata opposita, petiolo crasso 1.5–2 cm. longa supra breviter sulcato; lamina crasse membranacea ovalis vel elliptico-oblonga, 23–28 cm. longa, 10–13 cm. lata, apice obtusa vel rotundata et abrupte breviterque acuminata, acumine triangulari acuminato, basi obtusa vel rotundata, supra laete viridis, sublucida, nervis nervulisque prominulis, subtus paullo pallidior, costa crassiuscula elevata, nervis lateralibus utroque latere c. 19, gracillimis, prominentibus, angulo fere recto abeuntibus, leviter curvis, in nervum marginalem conjunctis, nervis aliis paullo tenuioribus parallelis interjectis, nervulis ultimis prominulis laxe reticulatis; stipulae deciduae, non visae; inflorescentia terminalis cymosocorymbosa e basi trichotoma c. 4.5 cm. longe pedunculata laxepauciflora, pedicellis plerumque in statu fructifero 2–4 mm. longis; fructus transverse ovalis fere laevis, c. 1.5 cm. latus et fere 1 cm. altus, apice subtruncatus; semen 1 cm. longum nigrescens facie inferiori profunde angustequae sulcatum.—Colombia: Sucre, Territorio del Caquetá, July 10, 1926, *G. Woronow and S. Juzepczuk 5882* (Herb. Field Mus. No. 605,665, type; duplicate in Leningrad Herbarium).

This species has much larger leaves than any other member of the genus with which I am familiar.

Faramea quinqueflora Poepp. & Endl. Nov. Gen. & Sp. 3: 28. pl. 234. 1845. *Coussarea bryoxenos* Schum. & Krause, Verh. Bot. Ver. Brandenb. 50: 116. 1908.

I have seen photographs of both the types on which these names are based, and they evidently relate to the same plant. It seems to be a common species of the upper Amazon Valley.

This widely ranging South American species has not been reported to range as far northward as Colombia, but a specimen recently received for determination, although not in the best of condition for study, seems referable to *F. quinqueflora*: Colombia: Montañita, on Río Orteguaza, Territorio del Caquetá, August, 1926, G. Woronow & S. Juzepczuk 6372 (Leningrad Herb.).

Faramea rectinervia, sp. nov.—Arbuscula omnino glabra, ramulis subgracilibus pallide viridibus subteretibus vel in sicco subcompressis, internodiis valde elongatis; stipulae persistentes alte connatae laxae late ovatae 7–9 mm. longae apice late rotundatae et breviter cuspidatae pallide virides; folia breviter petiolata opposita, petiolo 1–1.7 cm. longo crassiusculo; lamina crasse membranacea ovalis vel elliptico-oblonga 15–22 cm. longa, 6.5–11 cm. lata, apice obtusa vel rotundata, rarius acutiuscula et abrupte cuspidata, acumine 1–1.8 cm. longo vulgo oblongo-lineari obtuso, basi obtusa vel fere rotundata, rarius abrupte et brevissime decurrens, supra pallide viridis vel flavescens, costa venisque prominulis, venulis quoque saepe prominulis, subtus fere concolor, costa crassa prominente, nervis lateralibus utroque latere c. 11 angulo latissimo vel saepe recto divergentibus, gracillimis, prominulis, interdum valde irregularibus, leviter curvis vel fere rectis, remote a margine conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis sessilis vel 2.5–4 cm. longe pedunculata, basi trichotoma, 4.5–14 cm. longa et aequilata, laxa multiflora, ramis gracilibus subangulatis laete caeruleis divaricatis vel adscendentibus, floribus subumbellatis vel in cymulas trifloras dispositis, pedicellis valde inaequalibus crassiusculis 1–5 mm. longis, bracteis caducis; hypanthium late turbinatum 1.5–2 mm. longum e pedicello vix distinctum, calyce late companulato 1.5 mm. longo et 3 mm. lato truncato remote et minutissime denticulato; corolla in alabastro 11–13 mm. longa gracilis versus apicem obtusiusculum attenuata, lobis tubo aequilongis; fructus laete caeruleus depresso-globosus 7–10 mm. latus, 5–6 mm. altus, fere laevis, basi late rotundatus, apice fere planus; semen pallidum depressum, subtus in tota longitudine profunde angustequae exsculptum.—Peru: In forest, La Victoria, on the Amazon River, Dept. Loreto, August 30, 1929, Llewelyn Williams 2962 (Herb. Field Mus. No. 604,446, type). In dense forest, Puerto Bermúdez, Dept. Junín, 375 m., July 14–17, 1929, Killip & Smith 26418 (U. S. Nat. Herb.), 26582 (U. S. Nat. Herb.).

The species is well marked by the large, broad leaves whose veins are almost or quite perpendicular to the costa.

Faramea amplifolia, sp. nov.—Arbor omnino glabra, ramulis crassiusculis 6–7 mm. crassis in sicco subcompressis, internodiis valde elongatis; stipulae deciduae, non visae; folia breviter petiolata opposita, petiolo crasso 1.5–2 cm. longo; lamina crasse membranacea elliptico-oblonga vel anguste ovalis 22–28 cm. longa, 9.5–13 cm. lata,

apice rotundata et brevissime cuspidata, acumine angusto 5–8 mm. longo obtuso, basi obtusa vel acutiuscula, interdum versus basin breviter angustata, supra laete viridis vel flavescens, saepe lucida, costa venisque pallidis prominulis, subtus multo pallidior, costa crassa elevata, nervis lateralibus pallidis utroque latere c. 12, angulo latissimo divergentibus, gracilibus, prominentibus, leviter arcuatis, juxta marginem conjunctis, nervulis inconspicuis laxe reticulatis; inflorescentia terminalis magna sessilis cymoso-paniculata, 12–14 cm. longa et aequilata, laxa multiflora, basi trichotoma, ramis subgracilibus rigidis adscendentibus subcompressis, pedicellis gracilibus rigidis 2–10 mm. longis, bracteis deciduis; fructus depresso-globosus 8–13 mm. latus et 5–7 mm. altus laevis, calyce brevi persistente truncato coronatus, monospermus; semen depresso fuscum 6 mm. longum, facie inferiore in tota longitudine profunde excavatum.—Peru: In forest, Pebas, on the Amazon River, Dept. Loreto, July 30, 1930, *Llewelyn Williams* 1946 (Herb. Field Mus. No. 604,514, type); July 23, 1929, *Williams* 1575.

The species is notable for the very large leaves and ample panicles.

***Faramea miconioides*, sp. nov.**—Frutex c. metralis glaber, ramulis subteretibus crassiusculis sordide olivaceis glabris, internodiis 3.5–6 cm. longis; stipulae maximae alte connatae 3.5–4 cm. longae longe attenuatae (perfectae non visae); folia breviter petiolata opposita, petiolo 13–20 mm. longo crasso; lamina tenuiter coriacea elliptico-oblonga vel obovato-oblonga 14–16 cm. longa, 5.5–6.5 cm. lata, abrupte acuta vel breviter acuminata, acumine triangulari obtuso, basin versus breviter angustata, basi ipsa acuta, supra viridis, costa venisque subimpressis, subtus in sicco brunnescens, costa crassiuscula elevata, nervis lateralibus utroque latere c. 19 angulo recto divergentibus, prominulis, gracilibus, fere rectis, remote a margine nervum collectivum distinctum efformantibus, nervulis prominulis laxe reticulatis; inflorescentia terminalis sessilis cymoso-paniculata, 4.5 cm. longa et fere aequilata, laxa multiflora, basi trichotoma, ramis gracilibus adscendentibus, bracteis inconspicuis lanceolatis vel triangularibus acuminatis plerumque 1–2 mm. longis, cymulis trifloris, pedicellis c. 3 mm. longis; hypanthium anguste turbinatum 2 mm. longum, calyce caeruleo late campanulato 1.5 mm. longo, laciniis lineari-oblongis obtusis fere 1 mm. longis sinus latis rotundatis sejunctis; corolla in alabastro 5 mm. longa oblongo-linearis caerulea apice anguste obtusa.—Peru: Pichis Trail, Dos de Mayo, Dept. Junín, in dense forest, alt. 1,700–1,900 m., July 2–3, 1929, *E. P. Killip and A. C. Smith* 25808 (Herb. Field Mus. No. 607,650, type).

From all the species of *Faramea* known to occur in Peru, this is easily distinguished by its conspicuously 3-nerved leaves.

***Faramea axillaris*, sp. nov.**—Frutex 0.3–1.5 m. altus omnino glaber pauciramosus vel subsimplex, ramis vetustioribus subteretibus ochraceis rimosi, internodiis brevibus; stipulae suberectae persistentes virides vix connatae, e basi late triangulari 2–2.5 mm. longa in

aristam rigidam 6–7 mm. longam desinentes; folia brevissime petiolata opposita, petiolo crasso 2–9 mm. longo; lamina membranacea vel crasse membranacea oblanceolato-oblonga vel obovato-oblonga, rarius oblonga, 8–19 cm. longa, 3.5–6.5 cm. lata, abrupte acuta vel breviter acuminata, acumine lato obtuso vel acuto, basin versus anguste angustata vel cuneatim angustata, basi ipsa acuta vel obtusa, supra pallide viridis, costa venisque prominentibus, subtus vix pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 11 angulo fere recto abeuntibus, gracilibus, prominulis, leviter curvis vel fere rectis, remote a margine conjunctis, venulis vix prominulis reticulatis; flores pauci in axillis dense fasciculati vel dense breviterque cymosi, sessiles vel subsessiles, bracteis minutis subulatis; hypanthium obovoideum 0.8 mm. longum, calyce 1.2 mm. longo campanulato truncato; corolla alba, tubo gracili 4 mm. longo, lobis 4 patentibus vel recurvis 2.5–3 mm. longis oblongis acuminatis; fructus caeruleus globosus fere 1 cm. longus; semen 1 subglobosum 7 mm. longum cinereum facie inferiore profunde alveolato-excavatum.—Peru: In dense forest, Balsapuerto, lower Río Huallaga Basin, Dept. Loreto, alt. 150–350 m., August 28–30, 1929, *E. P. Killip and A. C. Smith 28655* (U. S. Nat. Herb., type), *28493*. Santa Rosa, lower Río Huallaga below Yurimaguas, Dept. Loreto, 135 m., in dense forest, *Killip & Smith 28900, 28711, 28939*. Yurimaguas, 135 m., in dense forest, *Killip & Smith 28198*. Soledad, on Río Itaya, Dept. Loreto, 110 m., in dense forest, *Killip & Smith 29643*. Puerto Arturo, lower Río Huallaga below Yurimaguas, 135 m., in dense forest, *Killip & Smith 27924*.

Other species of *Faramea* with axillary inflorescence are known from various parts of Brazil, but this is the first one with this type of inflorescence to be reported from Peru.

***Faramea stenocalyx*, sp. nov.**—Frutex omnino glaber, ut videtur dense ramosus, ramulis gracilibus teretibus vel subcompressis pallidis, internodiis foliis brevioribus; stipulae in vaginam c. 1 mm. longam truncatam connatae, margine vaginae laciniis 4 minutis subulatis onusto; folia petiolata opposita, petiolo gracili 6–12 mm. longo; lamina lanceolato-oblonga, oblanceolato-oblonga vel anguste elliptico-oblonga 4–8 cm. longa, 1–2.3 cm. lata, breviter vel longe attenuato-acuminata, acumine angusto apice obtuso, basin versus longe sensimque angustata, subcoriacea, supra viridis, costa venisque pallidis prominulis, subtus multo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 10 obliquis, angulo semirecto adscendentibus, gracillimis, prominulis, pallidis, prope marginem conjunctis, nervulis paucis laxissime reticulatis inconspicuis; inflorescentia terminalis sessilis vel 2 cm. longe pedunculata, capitata vel e basi trichotoma et e capitulis 3 2–4-floris 5–7 mm. longe pedunculatis composita, capitulis bracteis paucis triangulari-lanceolatis 2–4 mm. longis fulcratis, floribus sessilibus; hypanthium turbinato-cylindraceum 2 mm. longum, calyce companulato-tubuloso 8–9 mm. longo supra 4 mm. lato in sicco purpurascens breviter 5-lobato, lobis erectis triangulari-

ovatis 2 mm. longis acutiusculis; corolla caerulea extus glabra, tubo crassiusculo 10–11 mm. longo, c. 2 mm. crasso, lobis 2.5 mm. longis.—Brazil: Serra dos Orgãos, in 1888, A. Glaziov 17047 (Herb. Berol., type).

A species of Mueller's section *Homaloclados*, and related to *F. Eichleri* Muell. Arg. and *F. affinis* Muell. Arg., both of which are Brazilian. *F. Eichleri* has broader leaves and very different stipules. *F. affinis* also has broader leaves, its calyx is very different, and its corolla relatively longer.

Faramea paupera, sp. nov.—Arbor 3.5–4.5 m. alta omnino glabra, ramis teretibus ochraceis, novellis gracilibus rigidis viridibus interdum subangulatis et striatulis, internodiis brevibus; stipulae erectae persistentes virides vix connatae late triangulares 1–1.5 mm. longae, in aristam rigidam 2 mm. longam desinentes; folia breviter petiolata opposita, petiolo crassiusculo 3–7 mm. longo; lamina rigide membranacea oblongo-elliptica vel lanceolato-oblonga 5.5–11 cm. longa, 1.5–4.5 cm. lata, acuminata, acumine anguste triangulari attenuato obtuso, basin versus breviter angustata, basi ipsa acuta vel acuminata, supra viridis, sublucida, costa venisque elevatis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere c. 11 subobliquis, angulo lato adscendentibus, gracilibus, prominentibus, fere rectis, prope marginem conjunctis, venulis prominulis arcte reticulatis; inflorescentia terminalis vix 1.5 cm. longa basi trichotoma, laxe pauciflora, e cymulis 3 trifloris composita, ramulis gracilibus teretibus, bracteis obsoletis, pedicellis rectis 1–2 mm. longis; hypanthium turbinatum 1 mm. longum basi attenuatum, calyce campanulato 1.3 mm. longo viridi truncato; corolla "viridis" in alabastro 4.5 mm. longa apice attenuata, lobis attenuatis tubum aequantibus.—Brazil: In sandy woods, Manaus, State of Amazonas, alt. 25 m., October 13, 1929, E. P. Killip and A. C. Smith 30105 (Herb. Field Mus. No. 607,634, type).

The species is noteworthy for its much reduced inflorescence and small flowers.

Cephaelis paraensis (Huber), sp. nov. *Geophila paraensis* Huber in herb.—Herba repens ramosa, caulibus radicanibus crassiusculis 1.5–2 mm. diam., dense pilis multicellularibus pallidis debilibus villosis, internodiis plerumque 4–6.5 cm. longis; folia petiolata opposita, petiolo 5–12 mm. longo crassiusculo dense villosociliato; stipulae virides persistentes suberectae villosociliatae 5–6 mm. longae profunde bifidae, laciniis anguste lanceolatis attenuatis; lamina tenuiter membranacea ovalis vel ovali-ovata, 3–8.5 cm. longa, 1.5–6 cm. lata, apice obtusa vel rotundata, interdum abrupte apiculata, rarius subacuta, basi breviter vel profundius cordata, rarius tantum rotundata, supra viridis, satis dense pilis gracillimis fulvis villososericea, ad costam densissime subadpresso-villosa, venis conspicuis sed vix elevatis, subtus pallida, interdum ut videtur purpurascens, ubique sparse minuteque villosula, costa lata prominula, venis conspicuis

prominulis utroque latere c. 10, angulo recto abeuntibus, gracillimis, leviter curvis, juxta marginem conjunctis; capitula axillaria vel in dichotomiis pseudo-terminalia, densissime multiflora, c. 2.5 cm. lata et fere aequilonga, 1.5–3 cm. longe pedunculata, pedunculo gracili glabro; bracteae numerosissimae virides subaequilongae palmatim partitae, laciniis linearibus vel anguste lanceolatis crispis longissime angusteque attenuatis, dense villosulo-ciliatis; calyx 5-partitus, laciniis anguste triangularibus 1.5 mm. longis; corolla alba (perfecta non visa) in alabastro 5 mm. longa extus glabra; fructus ut videtur caeruleus glaber 7–8 mm. longus ovalis.—Brazil: A creeper on damp soil and leaves in forest near Belem, State of Pará, March 27, 1929, *L. Williams and E. Sella* 32 (Herb. Field Mus. No. 602,008, type). Belem, March–May, 1929, *Dahlgren & Sella* 630. Without definite locality, *Huber* 794.

The name *Geophila paraensis* Huber is associated with No. 794, listed above, a specimen in the herbarium of the Museu Goeldi, of which a photograph and fragment are preserved in the herbarium of Field Museum. The plant is clearly a *Cephaelis* rather than a *Geophila*, and it is closely related, evidently, to *C. alba* (Aubl.) Willd., of the Guianas, of which I have seen no specimens. The leaves of the Guiana plant are described as glabrous, and the heads as terminal.

Cephaelis spathicalyx (Muell. Arg.), comb. nov. *Psychotria spathicalyx* Muell. Arg. in Mart. Fl. Bras. 6⁵: 319. pl. 50, f. 2. 1881.

Cephaelis Krauseana, sp. nov.—Frutex, ramulis gracilibus subteretibus glabris fusco-brunnescentibus, novellis subcompressis ad nodos sparse pilosis, internodiis elongatis; stipulae erectae persistentes viridescentes basi brevissime connatae bifidae, laciniis oblongo-linearibus approximatis 3.5–4.5 mm. longis nervulosis attenuatis villosulo-ciliatis; folia brevissime petiolata opposita, petiolo gracili 4–5 mm. longo villosulo-piloso; lamina crasse papyracea oblongo-elliptica vel obovato-oblonga 6–11.5 cm. longa, 2.5–5 cm. lata, abrupte acuta vel breviter acuminata, acumine triangulari subobtusulo, basi acuta, supra ad costam sparse pilosa, aliter glabra, costa prominente, venis impressis, subtus brunnescens, ad costam venasque villosulo-pilosa vel glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 11 obliquis, angulo semirecto vel latiore abeuntibus, gracilibus, pro prominentibus, arcuatis, prope marginem conjunctis, nervulis plerumque transversis et distantibus; inflorescentia terminalis c. 1 cm. longe pedunculata capitata, pedunculo sparse piloso, capitulo bracteis 4 liberis ovalibus vel late ellipticis c. 1 cm. longis obtusis glabris ciliatis arcte involucreto, bracteis bracteolisque usque ad 5 mm. longis densis anguste spathulatis ciliatis, floribus numerosis sessilibus; corolla in alabastro 4 mm. longa clavato-oblonga apice obtusa et dense villosula; cetera ignota.—Brazil: In thicket along stream, Rio Arinos, Matto-Grosso, December, 1914, *J. G. Kuhlmann* 1410 (Herb. Berol., type).

A member of Mueller's subgenus *Cephaelis*, group *Cephaelideae*, but differing from all the species described by Mueller in that group.

Cephaelis Glaziovii, sp. nov.—Omnino glabra, ramulis gracilibus subteretibus fuscis, novellis subcompressis, internodiis elongatis; stipulae erectae persistentes c. 3 mm. longae breviter bifidae, lobis breviter triangulari-subulatis; folia petiolata opposita, petiolo gracili 1–2 cm. longo; lamina tenuiter coriacea elliptico-oblonga vel lanceolato-oblonga 6.5–12.5 cm. longa, 2.5–5.5 cm. lata, acuta vel acuminate, acumine obtuso, basi acuta, supra in secco fusco-viridis, costa venisque prominentibus, venulis obsoletis, subtus vix pallidior, costa gracili elevata, nervis lateralibus utroque latere 13–17 obliquis, angulo latiusculo abeuntibus, gracilibus, prominentibus, leviter curvis, in marginem desinentibus, nervulis fere obsoletis; inflorescentia terminalis 3 cm. longe pedunculata capitata, basi bracteis 2 magnis ut videtur rubris liberis convolutis supra recurvis late ovatis fere 2.5 cm. longis versus apicem angustatis fulcrata, bracteis sequentibus angustioribus 1.5 cm. longis, interioribus multo angustioribus et brevioribus, floribus paucis sessilibus; hypanthium turbinatum 1.5 mm. longum, calyce tubuloso 7 mm. longo, dentibus anguste triangularibus acutis 1.5 mm. longis erectis; corolla glabra c. 17 mm. longa, tubo gracili recto supra non dilatato in fauce glabro, lobis 5 reflexis triangulari-oblongis subobtusis 2.5 mm. longis.—Brazil: Without locality data, *A. Glaziovii* 20362 (Herb. Berol., type).

Probably referable to Mueller's subgenus *Tapogomea*; in that group distinguished by the comparatively small and narrow heads.

Cephaelis blepharophylla, sp. nov.—Herba vel suffrutex 30–50 cm. altus, erectus vel decumbens et ad nodos inferiores radicans, caulibus gracilibus teretibus sparse villosopilosis vel glabris, internodiis elongatis; stipulae persistentes suberectae in vaginam truncatam adpressam 2–4 mm. longam pilosam vel fere glabram connatae, vagina in lacinias 4 lineari-attenuatas 4–10 mm. longas ciliatas desinente; folia petiolata opposita, petiolo gracili 4–17 mm. longo piloso-ciliato; lamina membranacea elliptico-oblonga usque ad late elliptica 7–15 cm. longa, 2.5–7 cm. lata, abrupte longiacuminata, acumine 1–1.5 cm. longo longe attenuato, basi acuta vel subabrupte angustata et plus minusve decurrens, longe ciliata, supra laete viridis, glabra vel ad costam sparse longipilosa, costa venisque prominentibus, subtus parum pallidior, glabra, costa gracili elevata, nervis lateralibus utroque latere c. 8 obliquis, angulo latiusculo abeuntibus, gracillimis, prominulis, arcuatis, juxta marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis capituliformis vel breviter denseque cymosa 5–10 mm. longe pedunculata, pedunculo dense caeruleo-piloso, capitulo 1.5–3 cm. lato basi bracteato, bracteis fere ad basin partitis, laciniiis anguste linearibus longe villosociliatis attenuatis 10–15 mm. longis, floribus sessilibus; hypanthium glabrum late turbinatum, calyce fere 1 mm. longo glabrato remote minuteque 5-denticulato; corolla "luteo-lilacina" gracilis extus fere glabra, tubo

gracillimo 13 mm. longo intus non barbato fauce breviter et abrupte dilatato, lobis patentibus c. 2 mm. longis intus glabris; baccae caeruleae subglobosae glabrae 5 mm. longae basi et apice rotundatae, pyrenis 2 dorso obtuse costatis facie interiore planis et angustissime sulcatis.—Brazil: Near Pará, March 27, 1929, *L. Williams and E. Sella* 33 (Herb. Field Mus. No. 602,009, type). Belem, State of Pará, in 1929, *Dahlgren & Sella* 489.—Peru: Mishuyacu, near Iquitos, Dept. Loreto, 100 m., in 1929, *G. Klug* 59.

Cephaelis blepharophylla is related to *C. trichophoroides* (Muell. Arg.) Standl., described from the State of Goyaz.

Cephaelis trichophoroides (Muell. Arg.), comb. nov.
Psychotria trichophoroides Muell. Arg. *Flora* 59: 541, 545. 1876.

***Cephaelis tontaneoides*, sp. nov.**—Caules herbacei vel suffrutescentes 20–40 cm. longi, suberecti vel decumbentes vel procumbentes et ad nodos radicales, graciles, virides, subteretes, pilis longis debilibus albidis patentibus satis dense villosopilosi, internodiis plerumque 2–6.5 cm. longis; stipulae persistentes virides suberectae fere ad basin bifidae, laciniis linearibus 5–6 mm. longis longe attenuatis pilosis; folia breviter petiolata opposita, petiolo 4–7 mm. longo gracili longe piloso; lamina membranacea, lanceolato-oblonga vel anguste lanceolato-oblonga, 4–6.5 cm. longa, 1–2 cm. lata, longe sensimque acuminata, apice ipsa acuta, basi obtusa vel acutiuscula, utrinque dense pilis longis albidis patentibus mollibus pilosa, supra viridis, costa nervisque prominentibus, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 6, angulo acuto adscendentibus, prominulis, prope marginem conjunctis; inflorescentiae capitatae ex axillis supremis nascentes, dense pauciflorae, pedunculo gracili usque ad 2 cm. longo dense albido-piloso, bracteis exterioribus 8–9 mm. longis lanceolatis vel anguste oblongis longe acuminatis viridibus dense villosis, interioribus angustioribus et paullo brevioribus, floribus sessilibus; calycis lacinae subulatae 2–2.5 mm. longae ubique breviter pilosae; corolla infundibuliformis extus glabra vel superne pilulis paucis brevibus induta, tubo c. 5 mm. longo superne valde dilatato, lobis 5 patentibus ovato-oblongis obtusis.—British Guiana: Kamakusa, Upper Mazaruni River, July 11–22, 1923, *J. S. De La Cruz* 4239 (Herb. Field Mus. No. 544,814, type).—French Guiana: Without locality, *Poiteau* (Leningrad Herb.).

The present plant belongs to the group called *Trichocephalae* by Mueller in his treatment of the genus *Psychotria* in Martius' *Flora Brasiliensis*, a group which seems to be well represented in the Guianas and neighboring Brazil. This species bears some resemblance to the recently described *Cephaelis surinamensis* Standl. (*Field Mus. Bot.* 4: 335. 1929), but in that the broader leaves are rounded or subcordate at the base, and their pubescence consists of stiff hairs. *C. tontaneoides* resembles also *C. horridula* (Muell. Arg.) Standl. (l. c.), of Brazil, but in that the heads are sessile.

Cephaelis barcellana (Muell. Arg.), comb. nov. *Psychotria barcellana* Muell. Arg. in Mart. Fl. Bras. 6⁵: 369. 1881.

The type was collected by Spruce along the Río Negro in Brazil, and the species is reported also from southern Venezuela. Apparently it has a wide distribution, as the specimens cited below show. The species, if it be a valid one, is exactly like *C. tomentosa* (Aubl.) Vahl in general appearance, but it may be recognized by the fact that the copious hairs along the lower surface of the midrib are all closely appressed, rather than spreading almost at right angles, as in *C. tomentosa*.

Venezuela: Lower Orinoco, *Rusby & Squires 223*.—Colombia: Near Hetuchá, Territorio del Caquetá, *Woronow 6054*.—Peru: Ucayali, *Tessmann*. Iquitos, *Williams 1381*; *Killip & Smith 26970, 26931, 27377*; a shrub 2 m. high or less with bright red bracts and light yellow corollas, the fruit bright blue. Lower Río Nanay, *Williams 341, 682, 714*. Pinto Cocha, on the Río Nanay, *Williams 782*. Tira Doble, on the Río Nanay, *Williams 1075*; growing at the edge of a stream in deep forest. Punchana, near Iquitos, *Williams 1329, 1326*. Pebas, on the Amazon River, *Williams 1624, 1683, 1690, 1692*; growing in forest; called "awa." Caballo Cocha, on the Amazon River, *Williams 2323, 2069*.

Cephaelis flaviflora (Krause), comb. nov. *Uragoga flaviflora* Krause, Bot. Jahrb. Engler 40: 344. 1908.

The species has been known hitherto only from the type, but there are several recent collections at hand: Peru: Between Monzón and Huallaga, *Weberbauer 3686*; photograph and fragment of the type (in herb. Berol.) in herbarium of Field Museum. Pichis Trail, Santa Rosa, Dept. Junín, 625–900 m., *Killip & Smith 26180, 26186*; a shrub or tree of 3.5–6 m., the fruit brownish red, the bracts green with yellow margins; corolla light yellow. Pichis Trail, San Nicolás, Dept. Junín, 1,100 m., *Killip & Smith 25982, 26002*; a slender shrub 2.5–4.5 m. high; bracts pale or bright orange; corolla pure white; fruit white.

Cephaelis oleandrella Standl. Field Mus. Bot. 4: 334. 1929.

Two additional collections of this recently described species are now at hand: Peru: Pichis Trail, Dos de Mayo, Dept. Junín, 1,700–1,900 m., *Killip & Smith 25816*; a shrub of 2–2.5 m.; corolla light yellow, with white lobes. Pichis Trail, Yapas, Dept. Junín, 1,350–1,600 m., *Killip & Smith 25491*; a much-branched shrub 1.5–3.5 m. high; corolla yellow; fruit red.

Cephaelis affinis, sp. nov.—Frutex 1–2-metralis omnino glaber, ramulis crassis; stipulae perfectae non visae; folia longe petiolata

opposita, petiolo gracili 3.5–7.5 cm. longo; lamina crasse membranacea oblongo-elliptica 19–30 cm. longa, 8.5–14 cm. lata, abrupte acuminata, acumine fere 2 cm. longo anguste attenuato-triangulari subobtusio, basi acuta atque abrupte contracta et breviter decurrens, supra in sicco viridis, opaca, costa venisque non elevatis, subtus fere concolor, costa gracili valde elevata, nervis lateralibus utroque latere c. 10 obliquis, angulo semirecto vel latiore abeuntibus, gracilibus, prominulis, leviter curvis, juxta marginem conjunctis, nervulis obscuris arcte reticulatis; inflorescentia terminalis capitata graciliter 14 cm. longe pedunculata, in fructu 2.5 cm. lata, basi bracteis numerosis viridibus latissimis c. 8 mm. longis et 12 mm. latis apice late rotundatis arcte involucreta; baccæ numerosas 2–4 mm. longe pedicellatae subglobosae 8–9 mm. longae intense purpureae, pyrenis 2 dorso leviter obtuso-costatis, facie interiore planis.—Peru: In dense forest, between Yurimaguas and Balsapuerto, lower Río Hualaga basin, Dept. Loreto, August 26–31, 1929, *E. P. Killip and A. C. Smith 28329* (U. S. Nat. Herb., type).

A relative of *C. dolichophylla* Standl., of the same region, the latter differing in its narrow leaves and long outer bracts.

Cephaelis Williamsii, sp. nov.—Frutex omnino glaber, ramulis gracilibus teretibus in sicco fuscis vel olivaceis, novellis subcompressis, internodiis brevibus vel elongatis; stipulae persistentes erectae in vaginam c. 1 mm. longam truncatam vel breviter rotundatam connatae; folia petiolata opposita, petiolo gracili 7–10 mm. longo; lamina crasse membranacea elliptico-oblonga 5.5–10.5 cm. longa, 2–4.5 cm. lata, abrupte acuminata vel caudato-acuminata, acumine 1–1.5 cm. longo interdum fere lineari subacuto, basi acuta, supra obscure olivacea, raphidibus paucis pallidis elongatis transversis dispersa, costa elevata, venis prominulis, subtus paulo pallidior, costa gracili elevata anguste marginata et remote ciliata, nervis lateralibus utroque latere c. 12, aliis 2–3 brevioribus sed vix tenuioribus interpositis, angulo fere recto abeuntibus, gracilibus, prominulis, prope marginem conjunctis, nervulis crebris transversis venulis paucis connexis; inflorescentia terminalis vel pseudo-axillaris capitata 1.2–1.8 cm. longe pedunculata basi bracteis 2 cochleatis 1 cm. longis late ovatis erectis versus apicem obtusum angustatis basi breviter connatis fulcrata, bracteis interioribus angustioribus c. 5 mm. longis, floribus paucis sessilibus; calyx ad apicem baccæ persistens minutus vix 0.5 mm. longus denticulatus; bacca ovali-globosa 5–6 mm. longa basi et apice rotundata, pyrenis 2 vel abortu 1 dorso obtuse costatis.—Peru: In forest, Manfina, on the upper Río Nanay, Dept. Loreto, June 29, 1929, *Llewellyn Williams 1114* (Herb. Field Mus. No. 604,625, type), 1123.

The species is to be placed in the subgenus *Tapogomea*, in which it is noteworthy for its small flower heads.

Cephaelis Schunkeana, sp. nov.—Frutex 2.5–3.5 m. altus, ramulis crassiusculis subteretibus praesertim ad nodos pilosis vel

interdum glabratis, internodiis elongatis; stipulae (perfectae non visae) pilosulae in vaginam 5 mm. longam truncatam connatae, persistentes, suberectae, vagina in lacinias 4 semiovatas 1 cm. longas desinente; folia longe petiolata opposita, petiolo crasso 5–8 cm. longo glabrato; lamina firme membranacea elliptica 27–32 cm. longa, 14–15 cm. lata, abrupte acuminata, acumine anguste triangulari attenuato 2–3 cm. longo, basi acuta vel abrupte contracta et breviter decurrens, supra viridis, glabra, costa venisque non elevatis, subtus pallidior, ubique dense pilis pallidis velutino-pilosula, costa crassiuscula elevata, nervis lateralibus utroque latere c. 20 angulo lato saepe fere recto abeuntibus, gracilibus, prominentibus, leviter curvis, marginem attingentibus, nervulis prominulis laxe reticulatis; inflorescentia terminalis 5 cm. longe pedunculata e capitulis c. 7 racemose dispositis composita, pyramidalis, c. 5.5 cm. longa et aequilata, basi bracteis 2 late ovatis viridibus obtusis 1.5 cm. longis fulcrata, capitulis dense paucifloris 1–2 cm. longis, inferioribus crasse 1 cm. longe pedunculatis, superioribus sessilibus vel subsessilibus, pedunculis dense pilosis, bracteis exterioribus late ovatis vel ovalibus obtusis 10–13 mm. longis crassis dense puberulis vel pilosis vel serius glabratis, floribus sessilibus; calyx (perfectus non visus) ad apicem baccae persistens late tubulosus 4 mm. longus et ultra glaber; bacca subglobosa glabra c. 12 mm. longa basi et apice rotundata, pyrenis 2 c. 5 mm. longis dorso leviter et obtuse costatis, facie interiore profunde angusteque sulcatis.—Peru: In dense forest, Schunke Hacienda, above San Ramón, Dept. Junín, alt. 1,400–1,700 m., June 8–12, 1929, *E. P. Killip and A. C. Smith 24658* (Herb. Field Mus. No. 607,798, type).

Noteworthy for the very large, thin leaves, which are softly and densely pubescent beneath. This species is one of those which may be referred about equally well to either *Cephaelis* or *Psychotria*.

***Cephaelis pebasensis*, sp. nov.**—Frutex, ramulis crassis obtuse tetragonis glabratis, internodiis abbreviatis; stipulae suberectae persistentes crassae dorso unicastatae, c. 1.5 cm. longae, ad medium bifidae, lacinias semiovatis subacutis; folia petiolata opposita, petiolo gracili vel crassiusculo 3–4 cm. longo glabro; lamina chartacea elliptico-oblonga 14–26 cm. longa, 5–11 cm. lata, abrupte breviacuminata, acuta vel fere rotundata et apiculata, basi abrupte angustata et breviter decurrens, supra viridis, glabra, costa venisque prominentibus vel prominulis, subtus pallidior, vinacea, minute denseque albidopuncticulata, ad costam sparse pilosula, aliter glabra, costa gracili elevata, nervis lateralibus utroque latere c. 14 angulo fere recto abeuntibus, gracilibus, prominentibus, leviter curvis, marginem attingentibus, nervulis vix prominulis laxe reticulatis; inflorescentia terminalis crasse 2.5–3.5 cm. longe pedunculata, subrecurva, e capitulis 3–5 umbellatis vel breviter racemosis composita, basi bracteis 2 late ovatis obtusis 1–1.5 cm. longis fulcrata, capitulis crasse 1–1.5 cm. longe pedunculatis, pedunculis glabris vel glabratis, capitulis dense multifloris c. 1.5 cm. diam., bracteis exterioribus c.

1 cm. longis late ovatis usque ad oblongis acutis vel obtusis sparse puberulis, interioribus angustioribus acuminatis apice saepe subrecurvis, floribus sessilibus dense congestis; calyx ad apicem baccae persistens (perfectus non visus) subtubulosus 2–3 mm. longus profunde 5-fidus sparse puberulus, laciniis lineari-attenuatis; bacca oblonga 5–6 mm. longa, 3 mm. lata, sparse pilosula, ut videtur caerulea, pyrenis 2 dorso grosse costatis, facie interiore anguste profundeque sulcatis.—Peru: In forest, Pebas, on the Amazon River, Dept. Loreto, July 26, 1929, *Llewelyn Williams* 1786 (Herb. Field Mus. No. 604,576, type); July 24, 1929, *Williams* 1657.

Cephaelis Killipii, sp. nov.—Frutex 1–3.5 m. altus praeter inflorescentiam omnino glaber, ramulis gracilibus subteretibus viridibus, internodiis elongatis; stipulae erectae persistentes 4 mm. longae breviter connatae late ovatae, ad medium bilobae, lobis subulato-acuminatis; folia breviter petiolata opposita, petiolo gracili 7–15 mm. longo; lamina chartacea oblonga, elliptico-oblonga vel obovato-oblonga, 9–18 cm. longa, 3–5.5 cm. lata, abrupte acuminata, acumine angusto attenuato 1–2 cm. longo, basin versus sensim acuminata, supra intense viridis, raphidibus elongatis pallidis transversis notata, costa elevata, venis inconspicuis, subtus pallidior, costa lata depressa marginata et ciliata, nervis lateralibus utroque latere c. 16, aliis 2 brevioribus et parum tenuioribus interpositis, angulo recto abeuntibus, tenerrimis, prominulis, arcuatis, prope marginem conjunctis, nervulis paucis plerumque subtransversis; inflorescentia terminalis 1.2–2 cm. longe pedunculata capitata pauciflora, pedunculo crasso erecto sparse pilosulo, bracteis paucis, exterioribus late ovatis c. 8 mm. longis et 6–7 mm. latis abrupte longiacuminatis viridibus glabris ciliatis, interioribus paullo brevioribus, floribus sessilibus; calyx ad apicem baccae persistens tubulosus 4 mm. longus viridis glaber 5-fidus, laciniis lineari-attenuatis erectis tubo paullo brevioribus ciliatis; baccae rubrae subglobosae 8–9 mm. longae glabrae, pyrenis 2 dorso fere laevibus facie interiore planis.—Peru: In dense forest, San Antonio, on Río Itaya, Dept. Loreto, alt. 110 m., September 18, 1929, *E. P. Killip and A. C. Smith* 29303 (Herb. Field Mus. No. 607,497, type), 29425. Soledad, on Río Itaya, *Killip & Smith* 29624.

Psychotria axillaris Willd.—The distribution of this well-marked species, with axillary inflorescences, seems to be rather erratic. It is known from Colombia, the Guianas, Bolivia, and Trinidad, and it may be reported now from Central America, a new record for the North American continent: British Honduras: Middlesex, in dense forest, rare, elevation about 60 m., November, 1929, *W. A. Schipp* S68.

Psychotria pithecobia, sp. nov.—Frutex epiphyticus omnino glaber, ramulis teretibus gracilibus, vetustioribus cinnamomeis vel fere ochraceis, internodiis plerumque elongatis; stipulae in vaginam

brevem valde incrassatam truncatam persistentem connatae; nodi infra insertionem petioli annulari-incrassati; folia petiolata opposita, petiolo subgracili 5–7 mm. longo; lamina in sicco coriacea elliptico-oblonga 5–8 cm. longa, 1.7–3.5 cm. lata, longiuscule acuminata, acumine saepe falcato attenuato acuto, basi acuta vel basin versus breviter angustata, supra in sicco luteo-fusca, costa venisque interdum prominulis et semper manifestis, subtus concolor, costa gracili elevata, nervis lateralibus utroque latere c. 10 obliquis, angulo c. semirecto abeuntibus, prominentibus, gracilibus, leviter curvis, marginem attingentibus, nervulis obsoletis; inflorescentia terminalis 3.5–5 cm. longe pedunculata cymoso-corymbosa laxa multiflora, 3.5–4 cm. longa et 5–7 cm. lata, basi trichotoma, ramis gracilibus oppositis saepe patentibus basi bracteatis, bracteis lineari-subulatis patentibus plerumque 2–3 mm. longis, floribus in cymulas laxas dispositis, pedicellis 2–4 mm. longis; calyx ad apicem baccae persistens 1 mm. longus, ad medium 5-lobus, lobis anguste triangularibus acutis; bacca subglobosa nigra 4–5 mm. longa basi et apice rotundata, pyrenis 2 dorso leviter obtuseque costatis facie interiore profunde lateque sulcatis.—Costa Rica: Growing upon a tree, La Palma, alt. 1,550 m., August 15, 1898, *A. Tonduz 12432* (Herb. Berol., type). Matina, August, 1895, *Pittier 9751* (Herb. Berol.).

Evidently this is a relative of *P. crassa* Benth., of northern South America, but it differs from that species in the conspicuous nerves of the leaves and in the long pedicels.

Psychotria mombachensis, sp. nov.—Frutex 1.5 m. altus omnino glaber, ramulis gracilibus teretibus viridibus ad nodos contractis, internodiis elongatis; stipulae persistentes 3 mm. longae virides profunde bilobae, lobis late ovatis apice obtusis vel rotundatis; folia petiolata opposita, petiolo gracili 1–2 cm. longo; lamina membranacea elliptico-oblonga vel obovato-oblonga 10–17 cm. longa, 4–6.5 cm. lata, abrupte acuminata, acumine triangulari vel anguste triangulari obtuso, basin versus longe sensimque angustata, supra laete viridis, costa venisque prominulis, subtus parum pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 14 subobliquis, angulo recto vel saepe latiore abeuntibus, gracillimis, prominentibus, fere rectis, prope marginem conjunctis, nervulis obscuris; inflorescentia terminalis 1 cm. longe pedunculata cymoso-corymbosa laxa pauciflora 2.5 cm. longa et 5 cm. lata, basi trichotoma, ramis paucis oppositis basi bracteatis, bracteis usque ad 2 mm. longis subulatis, floribus aggregatis sessilibus; hypanthium cylindraceum 1 mm. longum, calyce 1.2–1.4 mm. longo campanulato ad medium 5-fido, lobis oblongis apice obtusis vel anguste rotundatis; corolla gracilis extus glabra fauce non barbata in alabastro apice subobtusata et minute tuberculata, tubo recto 13 mm. longo supra vix dilatato ore 1.5 mm. lato, lobis oblongis obtusis vix 3 mm. longis.—Nicaragua: In coffee plantation, Mombacho Volcano, alt. 600–750 m., July 5, 1923, *William R. Maxon, Alfred D. Harvey and A. T. Valentine 7818* (Herb. Field Mus. No. 600,068, type).

In details as well as in general appearance this is similar to *P. pedunculata* Sw., of Jamaica, but it differs from that in the longer corolla, short peduncles, and conspicuously elongate calyx lobes.

***Psychotria rufidula*, sp. nov.**—Frutex, ramulis gracilibus teretibus laevibus olivaceis vel griseis, novellis dense pilis brevibus patentibus rufis villosulo-hispidulis, internodiis 1–4 cm. longis; stipulae caducae ovatae acutiusculae 3–4 mm. longae dense ferrugineo-villosulae; folia opposita breviter petiolata, petiolo gracili 2–3 mm. longo subtereti dense ferrugineo-puberulo; lamina firme membranacea lanceolato-oblonga, 4.5–9 cm. longa, 1.4–3 cm. lata, sensim acuminata, basin versus sensim angustata, supra viridis, glabra, costa subimpressa, nervis nervisque non elevatis, subtus brunnescens, ad costam gracilem prominulam pilis brevibus griseis vel ferrugineis patentibus pilosula, aliter sparse minuteque puberula vel cito glabrata, nervis lateralibus utroque latere 7–8, tenuibus, fere rectis, angulo lato ascendentibus, remote a margine arcuato-conjunctis, nervulis manifestis sed vix prominulis laxè reticulatis; inflorescentia terminalis sessilis, e basi plerumque trichotoma, radiis primariis 0.8–2 cm. longis rectis suberectis dense ferrugineo-hispidulis, bracteis late ovatis membranaceis brunneis caducis; flores sessiles vel usque ad 2 mm. longe pedicellati, cymoso-corymbosi, saepe ad apices ramulorum brevium dense congesti; hypanthium breve ferrugineo-puberulum, calyce c. 1 mm. longo late campanulato remote denticulato sparse minuteque puberulo; corolla infundibuliformis extus glabra, tubo 2.5 mm. longo fauce valde dilatato, intus non barbato, lobis 5 ovali-ovatis 1 mm. longis obtusis recurvis intus minutissime puberulis; filamenta breviter exserta glabra, antheris oblongis fere 1 mm. longis obtusis; fructus ovalis 3–3.5 mm. longus glabratus, pyrenis dorso obtuse costatis.—Trinidad: Southern Range, Quinam Road, June 25, 1929, *R. O. Williams 12195* (Herb. Bot. Gardens, Trinidad and Tobago, type).

The plant simulates in aspect *P. alba* R. & P. and *P. carthaginensis* Jacq., but it differs from both those species in the conspicuous pubescence of the lower leaf surface and inflorescence.

***Psychotria uliginosa* Sw. Prodr. Veg. Ind. Occ. 43. 1788.**

Although a widely distributed species, extending from the West Indies as far southward as the Orinoco region, and occurring in Panama, this species was not reported in the writer's recent enumeration of the Colombian Rubiaceae. It may now be recorded, as follows: Colombia: Sucre, Territorio del Caquetá, July, 1926, *G. Woronow & S. Juzepczuk 5865* (Leningrad Herb.).

***Psychotria Woronovii*, sp. nov.**—Ramuli crassiusculi obtuse tetragoni in sicco fusi sparse villosuli vel fere glabri, internodiis plerumque 4.5–6 cm. longis; stipulae 1–2 cm. longae persistentes

suberectae glabrae vel basi tantum villosulae ciliolatae profunde bifidae, laciniis late semiovatis acutis; folia breviter petiolata opposita, petiolo 9–18 mm. longo gracili sparse villosulo vel glabrato; lamina rigide papyracea elliptica vel elliptico-obovata 16–19 cm. longa, 5.5–8 cm. lata, abrupte acuminata, acumine anguste triangulari vel lanceolato-triangulari attenuato obtusiusculo, basin versus longe attenuato-acuminata vel rarius tantum acuta, supra in sicco fusca, lucidula, costa venisque subimpressis, subtus pallidior, minutissime pallido-puncticulata, ubique minutissime adpresso-pilosula vel glabrata, ad venas minute villosula, costa glabra sed utroque latere ciliata gracili elevata, nervis lateralibus utroque latere c. 13 obliquis, angulo lato interdum fere recto abeuntibus, gracilibus, prominentibus, arcuatis, marginem attingentibus, nervulis obscuris; inflorescentia terminalis magna e capitulis numerosis longipedunculatis umbellatis vel subracemosis composita, sessilis, c. 26 cm. longa et fere aequilata, basi trichotoma, ramis gracillimis valde elongatis sparse sordido-villosulis, bracteis ad basin ramorum insertis oblongo-ovatis obtusis ciliatis et plus minusve villosulis 5–7 mm. longis, capitulis dense multifloris subglobosis c. 1 cm. diam. graciliter 12–20 mm. longe pedunculatis; bracteae capitulorum numerosae c. 4 mm. longae late ovatae vel subrotundatae. apice obtusae vel rotundatae, arcte adpressae, sparse villosulae vel glabratae; flores recte sessiles; hypanthium minutum villosulum, calyce campanulato 2.5 mm. longo truncato sparse villosulo vel glabrato; corolla in alabastro extus dense villosulo-tomentella 7 mm. longa, versus apicem paullo angustata, apice 5-cornuta.—Colombia: Hetuchá, on the Río Orteguaza, in forest at the lake Cocha Quecachiara, Territorio del Caquetá, July 22, 1926, *G. Woronow and S. Juzepczuk 6215* (Leningrad Herb., type).

This well-marked species resembles *P. brachiata* Sw., a widely dispersed shrub of tropical America, but it differs conspicuously from that in the large stipules, exceptionally large inflorescence, and in details of the flowers.

***Psychotria tenuicaulis* Krause**, Notizbl. Bot. Gart. Berlin 8: 101. 1922.

Described from Peru, and known hitherto only from the Amazonian region of that country, this species may now be reported from Colombia: Tres Esquinas on the Río Caquetá, at the mouth of the Río Orteguaza, July, 1926, *G. Woronow & S. Juzepczuk 6266*.

***Psychotria atabapoensis*, sp. nov.**—Frutex omnino glaber, ramulis gracillimis in sicco subcompressis luteo-viridibus, internodiis valde elongatis; stipulae persistentes viridescens in vaginam arcte adpressam truncatam 1–2 mm. longam connatae, margine vaginae dentibus 2 remotis subulatis vix 1 mm. longis instructo; folia breviter petiolata opposita, petiolo gracili 7–10 mm. longo; lamina rigide chartacea oblonga, lanceolato-oblonga vel ovato-oblonga, 10–14 cm. longa, 2.5–6 cm. lata, anguste cartilagineo-marginata, acuminata vel

longiacuminata, acumine angusto longe attenuato apice acuto, basi acuta vel cuneato-acuta, rare subrotundata, supra in sicco luteo-viridis, sublucida, costa venisque prominulis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere c. 13 obliquis, angulo angusto adscendentibus, prominentibus, gracilibus, fere rectis vel subcurvis, in marginem desinentibus, venulis prominulis laxe reticulatis; inflorescentia terminalis graciliter 5–7.5 cm. longe pedunculata, thyrsoido-paniculata, laxa multiflora, 3.5–7 cm. longa, 3.5–5.5 cm. lata, ramis gracilibus plerumque alternis patentibus teretibus pallidis dichotomis basi nudis, floribus sessilibus secus ramulos paullo elongatis insertis, bracteis nullis vel minutis; hypanthium columnare 0.5 mm. longum, calyce remote minuteque denticulato duplo brevior; corolla sordide alba 4 mm. longa in alabastro anguste obovoidea et apice rotundata, tubo crasso superne sensim dilatato, intus non barbato, lobis 5 suberectis oblongo-ovatis obtusis 1 mm. longis; discus tumidus calycem aequans.—Venezuela: San Fernando de Atabapo, on stream bank, January 14, 1913, *Th. Koch-Grünberg* 67 (Herb. Berol., type).

The relationship of this plant is with *P. patens* Sw., one of the most widely dispersed of American Psychotrias. The latter differs constantly in its larger stipules, less numerous leaf veins, and narrower inflorescence.

Psychotria Victoriae, sp. nov.—Frutex vel arbor usque ad 6 m. alta, ramulis gracilibus obtuse tetragonis puberulis vel glabris, internodiis elongatis; stipulae erectae persistentes 5–8 mm. longae glabrae breviter bilobae, lobis obtusis vel rotundatis; folia petiolata opposita, petiolo gracili 1.5–3 cm. longo glabro pilosulo; lamina papyracea oblonga vel elliptico-oblonga 14–20 cm. longa, 5–8.5 cm. lata, abrupte breviterque acuminata vel cuspidato-acuminata, acumine angusto attenuato subobtusos, basin versus breviter angustata, supra viridis, glabra, costa venisque interdum elevatis, subtus fere concolor, glabra vel ad costam venasque pilosula, costa crassiuscula elevata, nervis lateralibus utroque latere c. 13 angulo fere recto abeuntibus, gracilibus, prominentibus, arcuatis, juxta marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis 5.5–8 cm. longe pedunculata e capitulis 4–7 racemose dispositis composita, 8.5–9.5 cm. longa, 6–8 cm. lata, ramis primariis 1–4 cm. longis patentibus gracilibus breviter pilosis vel fere glabris basi bracteis late oblongis obtusis involutis c. 1 cm. longis fulcratis, capitulis dense multifloris subglobosis 1–2 cm. diam., floribus sessilibus congestis; bracteis exterioribus arcte adpressis late rotundatis 6–9 mm. longis crassis glabris ciliatis intense purpureis; calyx ad apicem baccae persistens tubuloso-campanulatus adpresso-pilosus 2–4 mm. longus truncatus; bacca ut videtur caerulea subglobosa 4–5 mm. longa basi et apice rotundata, prope apicem dense breviterque pilosa, pyrenis 2 dorso obtuse costatis, facie interiore planis et longitrorsum anguste profundeque sulcatis.—Peru: In forest, La Victoria, on the Amazon

River, Dept. Loreto, September 5, 1929, *Llewelyn Williams 3080* (Herb. Field Mus. No. 604,438, type). In dense forest, Puerto Yesup, Dept. Junín, 400 m., July, 1929, *Killip & Smith 26255*.

This plant is clearly a relative of *P. brachiata* Sw., which grows in the same general region, but that species differs conspicuously in its small flower heads, as well as in numerous other particulars.

***Psychotria emetica* L. f.**—Although this species was to be expected in Peru, having been found as far southward as Bolivia, there are no records of its actual occurrence there. The following recent collection may be reported: Peru: Río Apurímac Valley near Kimpitiriki, Dept. Ayacucho, 400 m., May, 1929, *Killip & Smith 22876*.

***Psychotria Weberbaueri*, sp. nov.**—Arbor 8 m. alta, ramulis crassis obtuse tetragonis fuscis glabris, internodiis abbreviatis; stipulae caducae breviter connatae glabrae, parte libera late triangulari obtusa 3 mm. longa; folia petiolata opposita, petiolo gracili 1.5–3 cm. longo glabro; lamina papyracea late elliptica vel late ovato-elliptica 13–25 cm. longa, 6.5–16 cm. lata, acuta vel abrupte et brevissime apiculato-acuminata, basi obtusa, rotundata vel subtruncata et abrupte contracta et longiuscule decurrens, glabra, supra in sicco fusca, costa venisque prominulis, subtus brunnescens, costa gracili elevata, nervis lateralibus utroque latere c. 25 saepe fere perpendicularibus, gracilibus, prominentibus, fere rectis vel leviter arcuatis, juxta marginem conjunctis, venulis obscuris; inflorescentia terminalis vel pseudo-axillaris sessilis cymoso-paniculata late pyramidalis, c. 7 cm. longa et 11 cm. lata, laxa multiflora, basi verticillato-ramosa, ramis patentibus glabris crassiusculis, bracteis minutis caducis, floribus plerumque in cymulas parvas dispositis, pedicellis vulgo 1–3 mm. longis glabris; hypanthium turbinatum 1 mm. longum glabrum basi acutum, calyce latissimo brevi 0.6 mm. longo truncato patente; corolla viridi-alba 5 mm. longa extus glabra, tubo brevissimo late campanulato, lobis oblongis acutiusculis intus glabris tubo plus quam duplo longioribus patentibus; stylus glaber 2 mm. longus, disco tumido.—Peru: In open forest, La Merced, Chanchamayo Valley, Dept. Junín, alt. 1,000 m., December, 1902, *A. Weberbauer 1872* (Herb. Berol., type).

The plant bears a superficial resemblance to *P. macrophylla* R. & P., but that species has an altogether different corolla.

***Psychotria alboviridula* Krause**, Notizbl. Bot. Gart. Berlin 6: 208. 1914.

The type of this species is *Ule 9846* from the Alto Acre, Seringal San Francisco, Brazil. A photograph and fragment of the type are in the herbarium of Field Museum. The following specimens, which are conspecific, extend the known range substantially:

Peru: Caballo Cocha, on the Amazon River, a shrub in forest, *Williams 2316*. La Victoria, on the Amazon, a shrub in forest, *Williams 2534, 2803*. Puerto Arturo, lower Río Huallaga below Yurimaguas, 135 m., a shrub 2.5–3 m. high in dense forest, *Killip & Smith 27878*. Puerto Bermúdez, Dept. Junín, 375 m., in dense forest, *Killip & Smith 26462*; a shrub 3.5–4.5 m. high; fruit deep red. Santa Rosa, lower Río Huallaga below Yurimaguas, 135 m., in dense forest, *Killip & Smith 28972*; a tree 6–7.5 m. high. Yurimaguas, Dept. Loreto, 135 m., in dense forest, *Killip & Smith 27680*; a shrub 3.5–4.5 m. high. Mishuyacu, near Iquitos, Dept. Loreto, 100 m., in dense forest, *Killip & Smith 29888*; a tree 4.5–6 m. high; fruit purple. Iquitos, in woods, *Killip & Smith 27046, 27050*; a shrub or tree 3–6 m. high; young fruit orange-red, the mature fruit deep red.

Psychotria camporum Krause, Notizbl. Bot. Gart. Berlin 6: 208. 1914.

In the herbarium of Field Museum there is a photograph, accompanied by a fragment, of the type, *Ule 8970*, collected along the Río Negro near Manaos, Brazil. The following collection appears to represent the same species: Brazil: A shrub in the capoeira near Cachoevinha, State of Amazonas, March, 1901, *Ule 5404* (Herb. Berol.).

Psychotria Herzogii S. Moore, Med. Rijks Herb. 46: 25. 1922.

This well-marked species is represented by several collections from Bolivia, the country from which it was described. The following specimens show that its range extends, naturally enough, to Amazonian Peru.

Peru: Soledad, on the Río Itaya, Dept. Loreto, 110 m., in dense forest, *Killip & Smith 29569, 29699*; a shrub 60–120 cm. high; fruit bright blue. Santa Rosa, lower Río Huallaga below Yurimaguas, Dept. Loreto, 135 m., in dense forest, *Killip & Smith 28712*; a shrub 60–90 cm. high; fruit bright blue. Yurimaguas, *Poeppig 2124*.

Psychotria bullatifolia, sp. nov.—Suffrutex vel herba simplex, caulibus ut videtur c. 10–12 cm. longis erectis crassis subteretibus sparse puberulis vel glabris, internodiis abbreviatis; stipulae cito deciduae, non visae; folia pauca petiolata opposita, petiolo crassiusculo 0.6–3 cm. longo sparse puberulo vel fere glabro; lamina herbacea oblonga vel ovali-oblonga 7–12 cm. longa, 3.5–5.5 cm. lata, apice obtusa vel rotundata et brevissime apiculata, basi acuta vel subrotundata, supra in sicco fusco-viridis, glabra, costa venisque non elevatis, valde inter venas bullata, subtus pallidior, brunnescens, minute albedo-puncticulata, sparse pilis brevibus sordidis patentibus pilosula, costa lata prominente, nervis lateralibus utroque latere c. 13 angulo lato fere recto abeuntibus, prominentibus, gracilibus, leviter curvis, in marginem desinentibus, venulis obsoletis; inflorescentiae (una tantum visa) axillares graciliter 2.5 cm. longe pedunculatae

capituliformes dense multiflorae fere 1 cm. latae, bracteis basalibus late ovatis 4 mm. longis acutiusculis; pedicelli in statu fructifero graciles recti glabri 4 mm. longi; fructus ovalis 6 mm. longus glaber basi et apice rotundatus, pyrenis 2 dorso acute 5-costatis facie interiore medio longitrorsum 1-costatis et utrinque leviter excavatis. —Peru: In forest, Pebas, on the Amazon River, Dept. Loreto, July 27, 1929, *Llewelyn Williams 1803* (Herb. Field Mus. No. 604,504, type), 1666, 1662.

The material at hand is unsatisfactory, since two of the specimens are sterile, and the other bears only a single imperfect inflorescence, but there is no doubt regarding the relationship of the plant. It is related to *P. polyphlebia* Donn. Smith, a Costa Rican species, which is not similar to any other member of the genus that I have seen. *P. polyphlebia* differs from the Peruvian plant in having much more numerous veins in the leaves, which are conspicuously hirsute beneath.

Psychotria rhodophylla, sp. nov.—Frutex 1–4.5 m. altus ramosus, ramulis gracilibus subteretibus vel in sicco interdum subcompressis et rubrotinctis glabris vel minute pilosulis, internodiis elongatis; stipulae persistentes puberulae vel glabratae in vaginam 1–2.5 mm. longam truncatam connatae, vagina in lacinias 4 remotas 2.5–5 mm. longas lineari-subulatas erectas vel adscendentes desinente; folia brevissime petiolata opposita, petiolo 3–10 mm. longo crassiusculo puberulo vel glabrato; lamina membranacea vel papyracea elliptico-oblonga, elliptico-ovata, elliptica vel rare obovato-elliptica, 11–30 cm. longa, 5–15 cm. lata, acuta vel breviter abrupteque acuminata, rarius longe acuminata, acumine angusto attenuato acuto vel obtusiusculo, basi acuta vel rarius late obtusa, interdum abrupte contracta et cuneatim decurrens, supra laete viridis, glabra, costa venisque ut quoque interdum venuli prominulis, subtus in sicco rubrotincta, glabra vel ad costam gracilem elevatam minute pilosula, nervis lateralibus utroque latere 9–11 angulo lato saepe fere recto abeuntibus, gracilibus, prominentibus, valde arcuatis, juxta marginem conjunctis, nervulis prominentibus laxe reticulatis vel plerumque transversis et subparallelis; inflorescentia terminalis capituliformis 5–12 mm. longe pedunculata basi non bracteata, densissime multiflora, 4.5–5 cm. lata et paullo brevior, in fructu usque ad 7 cm. lata, ramis primariis fastigiatis usque ad 5 mm. longis dense puberulis, bracteis exterioribus ovatis vel ellipticis 13–20 mm. longis apice acutis basi abrupte contractis minute puberulis vel fere glabris rubronerviis, interioribus brevioribus et angustioribus, floribus sessilibus ad ramulos breves cymularum secundis; hypanthium late cylindraceum 0.8 mm. longum minutissime puberulum vel glabrum calyce tubuloso-companulato 1.2–1.4 mm. longo subtruncato; corolla caerulea extus glabra, tubo gracili 12 mm. longo superne vix dilatato 2 mm. lato in fauce non barbato, lobis adscendentibus triangulari-oblongis acutiusculis 2.5–3 mm. longis; antherae inclusae; fructus glaber intense purpureus depresso-globosus 6 mm. longus et 7 mm. latus,

basi et apice late rotundatus, pyrenis 2 dorso laevibus, facie interiore planis.—In forest, Mishuyacu, near Iquitos, Dept. Loreto, alt. 100 m., in 1929, *G. Klug* 289 (Herb. Field Mus. No. 607,265, type). Between Yurimaguas and Balsapuerto, Dept. Loreto, 135–150 m., in dense forest, *Killip & Smith* 28084; bracts reddish purple. San Antonio on Río Itaya, Dept. Loreto, 110 m., in dense forest, *Killip & Smith* 29441. Maynas, *Poeppig*. Maynas, *Poeppig* 1083 (Herb. Berol.). Iquitos, 100 m., in woods, *Killip & Smith* 27112 (U. S. Nat. Herb.). Puerto Bermúdez, Dept. Junín, 375 m., in dense forest, *Killip & Smith* 26567 (U. S. Nat. Herb.).

A member of the subgenus *Eupsychotria*, section *Bracteosae*, as defined by Mueller in the *Flora Brasiliensis*. *Psychotria rhodophylla* must be related to *P. leucophaea* Poepp. & Endl., described from Ega, Brazil, but the Peruvian plant differs in several respects from the description of that species, particularly in its much larger inflorescences.

***Psychotria iquitosensis*, sp. nov.**—Frutex ramosus 0.5–3.5 m. altus praeter inflorescentiam omnino glaber, ramulis gracilibus teretibus viridibus vel olivaceis ad nodos in sicco saepe constrictis, internodiis elongatis; stipulae erectae persistentes virides in vaginam truncatam c. 1 mm. longam connatae, vagina in lacinias 4 remotas lineari-subulatas 3–4 mm. longas desinente; folia breviter petiolata opposita, petiolo gracili vel crassiusculo 3–8 mm. longo; lamina crasse membranacea vel papyracea lanceolato-oblonga vel rarius ovato-oblonga 7–17.5 cm. longa, 2.5–6 cm. lata, longe sensimque acuminata, acumine angusto longe attenuato acutissimo, basi acuta vel versus basin breviter angustata, rarius abrupte contracta et decurrens, supra laete viridis, costa venisque prominulis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere 7–12 obliquis, angulo acuto adscendentibus, gracilibus, prominentibus, arcuatis, in marginem desinentibus, nervulis prominulis laxè reticulatis; inflorescentia terminalis cymuloso-racemosa vel rarius cymuloso-paniculata, 1.5–3.5 cm. longa et fere aequilata, 1–3.5 cm. longe pedunculata, rhachi ut ramuli angulata sparse et minute pilosa vel glabrata, ramis brevibus rigidis divaricatis vel subreflexis simplicibus vel apice trifidis, bracteis persistentibus glabris lanceolatis viridibus 2–5 mm. longis, cymulis capituliformibus paucifloris, primo bracteis involucrentis, floribus congestis arcte sessilibus; hypanthium breve late turbinatum glabrum, calyce vix 0.5 mm. longo minute denticulato; corolla alba extus glabra in alabastro obtusa, tubo cylindræo 2.5–3 mm. longo fauce albo-barbato, lobis adscendentibus vel patentibus triangulari-oblongis obtusis 1.5 mm. longis; antherae ochroleucae oblongae 1 mm. longae breviter exsertae; fructus purpureus vel intense caeruleus subglobosus glaber 3–3.5 mm. longus basi et apice rotundatus, pyrenis 2 dorso acute 5-costatis, facie interiore profunde excavatis.—Peru: Near Iquitos, Dept. Loreto, July 14, 1929, *Llewelyn Williams* 1391 (Herb. Field Mus. No. 604,636, type). Punchana, near Iquitos, *Williams*

1337. Near Iquitos, *Williams 1524*. In woods, Iquitos, 100 m., *Killip & Smith 26926, 27208, 27019, 27244*. Santa Rosa, lower Río Huallaga below Yurimaguas, Dept. Loreto, 135 m., in dense forest, *Killip & Smith 28792, 28746*.

Very like *P. involucrata* Sw., one of the widely distributed species of tropical America. In that, however, the headlike clusters of flowers form a much-reduced, headlike or umbel-like inflorescence, distinct from the pinnate or racemose inflorescence of the present plant.

***Psychotria yapasensis*, sp. nov.**—Frutex vel arbor 2.5–6 m. alta omnino glabra, ramulis crassiusculis obtuse tetragonis, novellis subcompressis, internodiis valde elongatis; stipulae erectae persistentes in vaginam 1.5–3 mm. longam truncatam connatae, vagina in lacinias 4 triangulares 1–2 mm. longas acutas desinente; folia breviter petiolata opposita, petiolo crassiusculo 1–2 cm. longo; lamina coriacea vel subcoriacea elliptico-ovata, oblongo-elliptica vel rare anguste oblonga, 8.5–24 cm. longa, 4–10 cm. lata, obtusa vel acuta, interdum abrupte breviterque acuminata, basi acuta vel subobtusa, interdum basin versus angustata, supra in sicco fusca, costa venisque prominentibus, venulis prominulis vel fere obsoletis, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere 13–16 obliquis, angulo lato abeuntibus, gracilibus, prominentibus, leviter curvis vel fere rectis, prope marginem conjunctis, venulis prominulis arcte reticulatis, margine anguste incrassato; inflorescentia terminalis late pyramidalipaniculata magna, 5–12 cm. longe pedunculata, 12–16 cm. longa, 12–18 cm. lata, laxe multiflora, ramis oppositis patentibus vel subreflexis elongatis gracilibus angulatis, bracteis basalibus oblongis vel anguste lanceolatis obtusis foliaceis c. 1.5 cm. longis, superioribus latioribus et multo brevioribus, bracteis ad basin florum minutis acutis, floribus parvis in cymulas parvas paucifloras laxas dispositis acute sessilibus; hypanthium latissime turbinatum vix 0.5 mm. longum, calyce 0.4 mm. longo hypanthio latiore truncato vel minute denticulato; corolla lutescens extus glabra in alabastro apice obtusa et minute 5-tuberculata, 7 mm. longa, tubo crassiusculo superne sensim dilatato ore 2 mm. lato, lobis 5 suberectis triangulari-ovatis obtusis 1.5 mm. longis intus glabris; stylus gracilis glaber.—Peru: In dense forest, Pichis Trail, Yapas, Dept. Junín, alt. 1,350–1,600 m., June 28–29, 1929, *E. P. Killip and A. C. Smith 25461* (Herb. Field Mus. No. 607,712, type), 25567.

In general appearance the present species simulates closely the Bolivian *Psychotria luxurians* Rusby, but in the latter the leaves are thin, the inflorescence is pubescent, and the corolla is much shorter.

***Psychotria huantensis*, sp. nov.**—Frutex 3–3.5 m. altus, ramulis gracilibus obtuse tetragonis olivaceis sparse hirtellis, internodiis elongatis; stipulae puberulae suberectae persistentes in vaginam truncatam 1.5–2.5 mm. longam connatae, vagina in lobos 2 lanceolato-triangulares 4–5 mm. longos attenuatos interdum apice bifidos

desinente; folia breviter petiolata opposita, petiolo 1–1.5 cm. longo hispidulo gracili; lamina tenuiter coriacea oblonga vel lanceolato-oblonga, c. 16 cm. longa et 5.5 cm. lata, apicem versus breviter angustata, apice breviter cuspidata, basi subobtusata vel rotundata, anguste cartilagineo-marginata, supra laete viridis, glabra, in statu juvenili raphidibus paucis brevibus pallidis notata, costa venisque non elevatis, subtus vix pallidior, ad venas sparse hispidula vel fere glabra, costa gracili elevata, nervis lateralibus utroque latere c. 9 obliquis, angulo lato adscendentibus, gracilibus, prominentibus, valde arcuatis, in marginem desinentibus, venulis prominulis laxe reticulatis; inflorescentia terminalis anguste pyramidalis-paniculata 4 cm. longe pedunculata, laxa multiflora, c. 13 cm. longa et 10 cm. lata, ramis plerumque oppositis patentibus vel subreflexis gracilibus rectis dense pilosis, bracteis inferioribus lineari-subulatis 1 cm. longis puberulis, superioribus brevioribus, ramulis cymarum valde elongatis gracilibus secundifloris, floribus sessilibus bracteolatis; hypanthium brevissimum puberulum, calyce vix 0.5 mm. longo hypanthio latiore truncato vulgo disco tumido brevior; corolla non visa; fructus subglobosus 4 mm. longus hirtellus basi et apice rotundatus, pyrenis 2 dorso acute 5-costatis facie interiore profunde excavatis.—Peru: In dense woods, Estrella, between Huanta and Río Apurimac, Dept. Ayacucho, alt. 500 m., May, 1929, *E. P. Killip and A. C. Smith 22633* (Herb. Field Mus. No. 607,870, type).

This plant is an ally of *Psychotria patens* Sw., but it differs strikingly from that species in its broader and strongly pubescent inflorescence.

***Psychotria limitanea*, sp. nov.**—Frutex, ramulis teretibus viridibus glabris; stipulae magnae suberectae viridescens persistentes in vaginam truncatam 2 mm. longam connatae, vagina in lacinias 4 lineari-subulatas 2 cm. longas glabras desinente; folia brevissime petiolata opposita, petiolo crasso glabro 7 mm. longo; lamina tenuiter coriacea anguste cartilagineo-marginata anguste oblonga, c. 26 cm. longa et 8 cm. lata, acuminata, basi rotundata, glabra, supra laete viridis, costa venisque elevatis, subtus paullo pallidior, glabra, costa gracili elevata, nervis lateralibus utroque latere c. 15 obliquis, angulo lato adscendentibus, leviter arcuatis, prominentibus, gracilibus, in marginem desinentibus, nervulis prominulis laxe reticulatis; inflorescentia terminalis anguste cylindraco-paniculata 9 cm. longe pedunculata, laxa multiflora, c. 20 cm. longa et basi 4 cm. lata, pedunculo hispidulo, ramis brevibus plerumque plus minusve reflexis dense hispidulo-puberulis basi paullo incrassatis, bracteis nullis, floribus sessilibus in cymulas dispositis, ramulis interdum subelongatis et secundifloris; calyx ad apicem drupae persistens minutus subtruncatus; fructus depresso didymo-globosus glaber 4 mm. longus et 5 mm. latus, pyrenis 2 vel abortu saepe 1 dorso elevato-nervosis facie interiore profunde excavatis.—In forest, La Victoria on the Amazon River, Dept. Loreto, August 31, 1930, *Llewelyn Williams 3006* (Herb. Field Mus. No. 604,434, type).

This plant is clearly a relative of *P. patens* Sw., differing from it in the very large leaves with numerous veins and rounded bases, and in the very long and narrow, pubescent inflorescence.

***Psychotria loretensis*, sp. nov.**—Frutex 2.5–4.5 m. altus ubique praeter inflorescentiam glaber, ramulis gracilibus teretibus viridibus vel olivaceis, internodiis elongatis; stipulae viridescentes persistentes et interdum aliquid induratae in vaginam 1–2 mm. longam subtruncatam connatae, vagina in lacinias 4 subulatas erectas rigidas 3–4 mm. longas desinente; folia petiolata opposita, petiolo gracili vel crassiusculo 0.7–2.5 cm. longo; lamina coriacea vel subcoriacea conspicue cartilagineo-marginata oblonga, lanceolato-oblonga vel rare oblongo-elliptica, 10–24 cm. longa, 3–8 cm. lata, sensim vel abrupte longiacuminata, acumine attenuato angusto, basi obtusa vel acuta, supra viridis, costa venisque prominentibus, subtus paullo pallidior, costa crassiuscula elevata, nervis lateralibus utroque latere 8–13 angulo lato abeuntibus, prominentibus, gracilibus, leviter curvis vel fere rectis, in marginem desinentibus, venulis prominulis plerumque transversis et parallelis laxe reticulatis; inflorescentia terminalis cylindraceo-paniculata vel anguste pyramidali-paniculata erecta 5–18 cm. longa et 3–9 cm. lata, laxa multiflora, graciliter 3–12 cm. longe pedunculata, bracteis nullis, ramis brevibus gracilibus patentibus vel saepe reflexis, glabris vel minute puberulis, cymis laxis e cymulis parvis paucifloris compositis, ramulis interdum aliquid elongatis et secundifloris, floribus arcte sessilibus; hypanthium glabrum breviter cylindraceum 0.7 mm. longum, calyce 0.4 mm. longo profunde 5-lobulato, lobulis obtusis vel rotundatis minutissime ciliolatis; corolla lutea extus glabra in alabastro apice rotundata, 5 mm. longa, tubo gracili superne dilatato in fauce glabro, lobis 5 suberectis ovali-ovatis apice rotundatis tubo duplo brevioribus; antherae anguste oblongae subexsertae 1–1.2 mm. longae; fructus aurantiacus subglobosus glaber 4–5 mm. diam., basi et apice rotundatus, pyrenis 2 dorso leviter obtuso-costatis vel fere laevibus facie interiore profunde excavatis.—Peru: In woods, Iquitos, Dept. Loreto, alt. 100 m., August 3–11, 1929, *E. P. Killip and A. C. Smith 27482* (Herb. Field Mus. No. 607,573, type), 26988. In forest between Río Nanay and Río Napo, June 6, 1929, *Williams 720*. In sandy soil, edge of jungle, Timbuchi, on the Río Nanay, Dept. Loreto, *Williams 1016*. In forest north of Río Nanay, Dept. Loreto, *Williams 856*. In dense forest, Puerto Bermúdez, Dept. Junín, 375 m., *Killip & Smith 26561*. Mishuyacu, near Iquitos, in dense forest, *Killip & Smith 29862*. Balsapuerto, lower Río Huallaga Basin, 350–550 m., in dense forest, *Killip & Smith 28542, 28398* (U. S. Nat. Herb.), 28388, 28606, 28405. Pichis Trail, Santa Rosa, Dept. Junín, 625–900 m., in dense forest, *Killip & Smith 26167*.

A close ally of *P. patens* Sw., which is widely distributed in tropical America, but distinguished from that species by the larger and broader inflorescence, and especially by the much thicker and larger leaves with conspicuous cartilaginous margins.

Psychotria racemifera Standl. Field Mus. Bot. 8: 71. 1930.

The known range of this recently described species is greatly extended by the two following specimens: Peru: In forest, Timbuchi, on the Río Nanay, Dept. Loreto, June 25, 1929, *Llewelyn Williams 952*.—Brazil: In forest, Manaos, State of Amazonas, July 31, 1900, *E. Ule 5121* (Herb. Berol.); a shrub 20–100 cm. high; flowers white; fruit blue.

Psychotria hospitalis, sp. nov.—Ramuli graciles teretes sordide fuscii vel olivacei glabri, internodiis 2–4 cm. longis; stipulae caducae 5 mm. longae late triangulari-ovatae acutae ferrugineae glabrae, dorso acute costatae; folia breviter petiolata opposita, petiolo crassiusculo 3–7 mm. longo glabro; lamina crasse membranacea in sicco nigrescens glabra oblonga vel obovato-oblonga 7–11 cm. longa, 2–4.5 cm. lata, abrupte acuminata vel longe acuminata, acumine angusto interdum fere lineari acuto saepe subfalcato, basin versus sensim angustata, basi ipsa acuta vel attenuata, costa supra prominula, venis non elevatis, subtus fere concolor, secus costam domatiis magnis conspicuis elongatis instructa, costa gracili elevata, nervis lateralibus utroque latere c. 13 obliquis, plerumque angulo semirecto adscendentibus, gracilibus, prominentibus, leviter curvis, prope marginem conjunctis, venulis obscuris; inflorescentia terminalis vel pseudo-axillaris cymoso-paniculata 3–4 cm. longe pedunculata, 2.5–3 cm. longa et aequilata, laxe multiflora, ramis brevibus glabris, basalibus verticillatis, superioribus oppositis, divaricatis, angulatis, bracteis minutis saepe deciduis late ovatis vel triangularibus acutis, floribus aggregatis sessilibus vel 1 mm. longe pedicellatis; calyx ad apicem drupae persistens glaber late campanulatus fere ad medium 5-dentatus, dentibus ovatis acutis erectis; fructus globoso-ellipsoidalibus 6 mm. longus glaber, basi acutiusculus, apice rotundatus, pyrenis 2 dorso obtuse 5-costatis facie interiore planis.—Peru: In forest along the Río Nanay, Dept. Loreto, June 17, 1929, *Llewelyn Williams 845* (Herb. Field Mus. No. 604,678, type).

The species belongs to the *Mapouria* group. It is noteworthy for the unusually large and conspicuous shelters for parasites occurring abundantly along the costa. These are elongated and narrow, with their openings toward the base of the leaf.

Psychotria calochlamys, sp. nov.—Frutex 1–2-metralis, ramulis gracilibus teretibus viridibus vel olivaceis glabris vel minutissime puberulis, internodiis valde elongatis; stipulae subsistentes erectae virides vel rubrotinctae liberae glabrae vel minute puberulae fere ad basin bifidae, laciniis 13–28 mm. longis lanceolatis vel lineari-lanceolatis longe angustaque attenuatis, saepe subfalcatis, nervulosis; folia breviter petiolata opposita, petiolo gracili vel crassiusculo 3–10 mm. longo glabro vel minute puberulo; lamina papyracea vel subcoriacea anguste lanceolato-oblonga, lanceolato-oblonga, elliptico-oblonga vel rare ovata, 7.5–20 cm. longa, 2.5–7 cm. lata, longe vel longissime

acuminata, acumine angusto longe attenuato interdum subfalcato, basi acuta, supra viridis, glabra, costa venisque saepe pallidis vix prominulis, subtus paullo pallidior, glabra vel ad costam minutissime puberula, costa gracili elevata, nervis lateralibus utroque latere c. 15 obliquis, angulo lato adscendentibus, gracilibus, prominentibus, saepe valde arcuatis, juxta marginem conjunctis, venulis prominulis laxae reticulatis; inflorescentia terminalis depresso-cymoso-paniculata, 2–6 cm. lata et fere aequilonga, basi nuda vel interdum bracteis elongatis 1 vel 2 elongatis fulcrata, basi vulgo trichotoma, longe pedunculata, ramis brevibus plus minusve fastigiatis valde adscendentibus sparse minuteque puberulis, bracteis roseis vel purpureis in sicco rubris vel rubescentibus lanceolatis vel oblongis flores fere aequantibus, plerumque 1–1.5 cm. longis, acutis vel acuminatis, glabris vel sparse minuteque puberulis, persistentibus, floribus sessilibus vel subsessilibus in cymulas parvas densifloras dispositis, interdum secundis; hypanthium late turbinatum glabrum 1 mm. longum, calyce late companulato glabro 0.6 mm. longo breviter et irregulariter dentato; corolla rosea extus glabra 12 mm. longa, tubo gracili superne vix dilatato, lobis suberectis triangulari-oblongis 2–2.5 mm. longis obtusis intus glabris; stylus gracillimus glaber; fructus intense purpureus ovalis 6–7 mm. longus glaber, basi rotundatus, apice late rotundatus vel depressus, pyrenis 2 dorso acute 5-costatis, facie inferiore longitrorsum sulcatis. —Peru: Santa Ana, on the upper Río Nanay, Dept. Loreto, July 7, 1929, *Llewelyn Williams 1226* (Herb. Field Mus. No. 604,620, type). Near Iquitos, *Williams 1502*. In woods, Iquitos, 100 m., *Killip & Smith 27194, 27000, 27002*. Río Nanay, Dept. Loreto, edge of forest, *Williams 752*. Timbuchi, on the Río Nanay, in water in forest, *Williams 1042, 1041*. Along the Río Nanay, in forest, *Williams 839*. Wooded banks of the Río Itaya, above Iquitos, 110 m., *Killip & Smith 29387, 29286* (U. S. Nat. Herb.).

Vernacular names, "chirapa shacha" and "shuturi."

This is one of those plants which may be referred almost equally well to either *Psychotria* or *Cephaelis*, but apparently it is referable to Mueller's section *Inundatae* of the subgenus *Eupsychotria*. It is related to some of the forms which have been referred to *P. bracteata* DC., but distinguishable by the numerous broad and vividly colored bracts. The shrub must be an exceptionally handsome one when growing.

***Psychotria Williamsii*, sp. nov.**—Frutex 2–2.5 m. altus, ramulis gracilibus teretibus vel subcompressis, novellis olivaceis vel viridibus, internodiis valde elongatis; stipulae virides erectae persistentes in vaginam latam truncatam 1–1.5 mm. longam connatae, vagina in lacinias 4 subulato-lineares 4–5 mm. longas rigidas minute scaberulas desinente; folia opposita sessilia vel tantum 1–2 mm. longe petiolata; lamina chartacea anguste oblonga vel lanceolato-oblonga 12.5–22 cm. longa, 3–6 cm. lata, longissime sensimque acuminata, acumine angusto longe attenuato, basi rotundata et breviter cordata, glabra,

supra viridis, costa venisque prominulis, subtus paullo pallidior, costa gracili elevata rubescente, nervis lateralibus utroque latere c. 12 obliquis, angulo acuto adscendentibus, gracilibus, prominentibus, fere rectis, marginem attingentibus, venulis prominulis laxe reticulatis; inflorescentia terminalis 4.5 cm. longe pedunculata, depressocymosa, fere capituliformis, c. 3 cm. longa et 5 cm. lata, basi brevissime digitato-ramosa, ramis primariis basi nudis 2–5 mm. tantum longis crassis glabris vel minute puberulis, bracteis intense purpureis elliptico-oblongis, lanceolatis vel oblanceolatis, 1.5–2.5 cm. longis, 6–10 mm. latis, acutis vel acuminatis, interdum cuspidato-acuminatis, minute puberulis, scaberulis vel glabris, nervosis; flores in cymulas parvas paucifloras dispositi, sessiles vel 1 mm. longe pedicellati; hypanthium late turbinatum 0.5 mm. longum minute puberulum, calyce brevissimo 0.5 mm. longo brevissime lobulato, lobis late rotundatis minute puberulis; corolla pallide caerulea extus minute puberula in alabastro versus apicem sensim angustata et 8 mm. longa, tubo gracili superne sensim dilatato, lobis tubo multo brevioribus; fructus globosus 5 mm. longus basi et apice rotundatus glaber, pyrenis 2 dorso fere laevibus.—Peru: In forest, Río Nanay, Dept. Loreto, June 15, 1929, *Llewelyn Williams 760* (Herb. Field Mus. No. 604,664, type), 763. Peña Blanca, on Río Itaya, Dept. Loreto, 110 m., September 19, 1929, *Killip & Smith 29648*; growing in dense forest.

The plant is a member of Mueller's section *Bracteosae* of the subgenus *Euppsychotria* (see Mart. Fl. Bras. 6⁵: 273. 1881). From all the species of that group it differs prominently in the long and narrow, sessile leaves with broad bases. It must be a showy species when growing because of the numerous large and brilliantly colored bracts.

***Psychotria cuspidulata* (Krause), comb. nov.** *Cephaelis cuspidulata* Krause, Notizbl. Bot. Gart. Berlin 8: 102. 1922.

***Psychotria rhodothamna*, sp. nov.**—Frutex vel arbuscula 1–6-metralis praeter inflorescentiam omnino glabra, ramulis gracilibus teretibus, vetustioribus olivaceis, novellis interdum subcompressis in sicco plus minusve rubrotinctis, internodiis plerumque elongatis; stipulae erectae arcte adpressae persistentes 2–3 mm. longae in vaginam brevissimam truncatam connatae, vagina in lobos 2 breves late ovato-triangulares obtusos desinente; folia petiolata opposita, petiolo gracili 7–20 mm. longo; lamina crasse membranacea lanceolato-oblonga usque ad oblongo-elliptica 9–19 cm. longa, 3–8 cm. lata, longe cuspidato-acuminata, acumine angusto interdum fere lineari longe attenuato apice obtuso saepe subfalcato, basi acuta vel breviter acuminata, interdum abrupte contracta et breviter decurrens, supra laete viridis, costa venisque ut interdum quoque venuli prominentibus vel prominulis, subtus vix pallidior, interdum praesertim ad nervos rubrotincta, costa gracili elevata, nervis lateralibus utroque latere c. 8 subobliquis vel obliquis, angulo lato vel angusto adscendentibus, gracilibus, prominentibus, leviter arcuatis, prope marginem

conjunctis, venulis paucis prominulis laxè reticulatis; inflorescentia terminalis depresso-cymosa 0.5–2 cm. longè pedunculata 1.5–3 cm. lata dense multiflora, pedunculo glabro vel minutissime puberulo, ramis fastigiatis suberectis vel interdum subpatentibus, brevibus, basi non bracteatis, minute puberulis vel glabris, in sicco rubrotinctis, bracteolis obsoletis, floribus sessilibus vel crasse 1–2 mm. longè pedicellatis interdum subsecundis; hypanthium cylindraceo-turbinatum c. 0.8 mm. longum glabrum vel minutissime puberulum, calyce 0.5–0.8 mm. longo hypanthio multo latiore truncato vel obsolete 5-denticulato, disco tumido; corolla alba vel ochroleuca in alabastro apice minutissime 5-tuberculata vel fere nuda extus pulverulacea vel fere glabra, tubo gracili elongato basi saepe arcuato vel subtorto 8–14 mm. longo, superne non vel vix dilatato, 1–1.5 mm. lato, lobis 5 triangulari-oblongis 2.5–3 mm. longis obtusis adscendentibus intus glabris; antherae albae subexsertae lineares 2.5 mm. longae; fructus ut videtur caeruleus didymo-globosus glaber 5–6 mm. latus, laevis, basi et apice late rotundatus.—Peru: In woods, Iquitos, Dept. Loreto, alt. 100 m., August 3–11, 1929, *E. P. Killip and A. C. Smith 27115* (Herb. Field Mus. No. 607,525, type), 26925, 27344. Pebas, on the Amazon River, Dept. Loreto, in forest, July, 1929, *Williams 1664, 1678, 1591*. Pisco, on the Río Nanay, Dept. Loreto, in forest, *Williams 1286*. San Antonio, on Río Itaya, Dept. Loreto, 110 m., in dense forest, *Killip & Smith 29341, 29334*.—Bolivia: Buena Vista, Dept. Santa Cruz, March 4, 1915, *Steinbach 910* (Herb. Berol.).

A member of the subgenus *Psychotriopsis*, section *Divaricatae*, as defined by Mueller in the *Flora Brasiliensis*. It must be related to *P. urophylla* Schlecht., described from the upper Amazon, but in that the corolla is only 6.5 mm. long. *Psychotria rhodothamna* resembles closely *P. cuspidulata* (Krause) Standl., but in that species the corolla is pilose with spreading hairs.

***Psychotria compta*, sp. nov.**—Suffrutex vel frutex 0.6–3.5 m. altus simplex vel ramosus, interdum basi decumbens et radicans, praeter inflorescentiam omnino glaber, ramulis crassis vel crassiusculis teretibus, vetustioribus viridibus vel olivaceis, novellis in sicco interdum rubrotinctis et ad nodos plus minusve constrictis, internodiis valde elongatis; stipulae erectae persistentes arcte adpressae c. 7 mm. longae in vaginam brevem truncatam c. 2 mm. longam connatae, vagina in lobos 4 remotos late ovato-triangulares obtusos desinente; folia petiolata opposita, petiolo gracili vel crassiusculo 1–2.5 cm. longo; lamina firme membranacea late elliptica vel ovato-elliptica, rarius oblongo-ovata, 13–26 cm. longa, 5.5–15 cm. lata, apice acuta usque ad rotundata et abrupte cuspidato-acuminata, rarius longè acuminata, acumine angusto interdum fere lineari longè attenuato interdum subfalcato, basi acuta vel obtusa, interdum abrupte contracta et breviter decurrens, supra laete viridis, costa venisque prominentibus, subtus paullo pallidior, costa gracili vel latiuscula elevata, nervis lateralibus utroque latere c. 12 angulo lato

interdum fere recto abeuntibus, gracilibus, prominentibus, leviter curvis vel fere rectis, prope marginem conjunctis, venulis prominulis laxe reticulatis; inflorescentia terminalis crasse 1–3.5 cm. longe pedunculata, erecta, cymoso-paniculata, late ovoidea, in anthesi c. 5 cm. longa et 6 cm. lata, ramis crassis non bracteatis basi dilatatis saepe compressis oppositis vel alternis divaricatis vel subreflexis, in statu fructifero interdum valde reflexis, glabris vel minute pulverulaceis, ramis plus minusve racemose dispositis, floribus numerosis in cymulas parvas densas paucifloras dispositis, plerumque sessilibus vel pedicellis roseis crassis vix 1 mm. longis stipatis; corolla ochroleuca extus minute puberula in alabastro apice rotundata, tubo crassiusculo 5–8 mm. longo superne paullo dilatato et 3 mm. lato, lobis 5 triangulari-oblongis obtusis adscendentibus vel patentibus 2.5–3 mm. longis intus glabris; antherae ochroleucae breviter exsertae 2 mm. longae oblongo-lineares; fructus pallide caeruleus vel albus didymo-globosus 6–9 mm. latus basi et apice late rotundatus, pyrenis 2 facie interiore convexis dorso laevibus.—Peru: In woods, Yurimaguas, lower Río Huallaga, Dept. Loreto, alt. 135 m., August 22–September 9, 1929, *E. P. Killip and A. C. Smith 29098* (Herb. Field Mus. No. 607,750, type), 27590, 29038, 27968. Schunke Hacienda, above San Ramón, Dept. Junín, 1,400–1,700 m., *Killip & Smith 24584, 24601* (U. S. Nat. Herb.); growing in dense forest. Pichis Trail, Eneñas, Dept. Junín, 1,600–1,900 m., in dense forest, *Killip & Smith 25633*. Río Apurímac Valley, near Kimpitiriki, Dept. Ayacucho, 400 m., in dense forest, *Killip & Smith 22920* (U. S. Nat. Herb.), 22903 (U. S. Nat. Herb.).

The plant is nearly related to *P. rhodothamna* Standl., the latter differing in its small, dense, compact, cymose inflorescence.

Psychotria Albert-Smithii, sp. nov.—Frutex vel arbor 2.5–7.5 m. alta praeter inflorescentiam omnino glabra, ramulis gracilibus teretibus viridibus vel olivaceis, internodiis elongatis; stipulae parvae erectae persistentes in vaginam truncatam 1–1.5 mm. longam connatae, vagina in lacinias 4 remotas 1–2 mm. longas lineari-subulatas rigidas desinente; folia breviter petiolata opposita, petiolo gracili 1–1.5 cm. longo; lamina papyracea elliptico-oblonga 10–19 cm. longa, 4–7 cm. lata, abrupte acuminata vel cuspidato-acuminata, acumine angusto attenuato interdum subfalcato, basi acuta et plus minusve inaequalis, saepe versus basin breviter angustata, supra laete viridis, costa venisque prominulis vel prominentibus, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 9 angulo lato abeuntibus, gracillimis, prominentibus, leviter arcuatis, prope marginem conjunctis, venulis prominulis vel obscuris laxe reticulatis; inflorescentia terminalis cymuloso-umbelliformis 3–8 mm. longe pedunculata, e cymulis paucis dense paucifloris 1–5 mm. longe pedunculatis radiatim dispositis composita, interdum internodio 1 brevi adjecto, ramulis glabris vel sparse minuteque puberulis, bracteis ad basin ramulorum lanceolato-subulatis 1–1.5 mm. longis, ceteris minutis vel obsoletis, floribus dense congestis arcte sessilibus; hypan-

thium turbinato-cylindraceum 1-1.2 mm. longum glabrum, calyce hypanthio latiore 0.6 mm. longo glabro 5-denticulato, dentibus acutis: corolla minuta viridescens roseotincta extus glabra in alabastro apice late rotundata, c. 2 mm. longa, fauce dense albo-barbata, lobis oblongis obtusis tubo plus quam duplo longioribus; antherae breves oblongae subexsertae; fructus ellipsoidalis 8 mm. longus intense ruber glaber, basi acutiusculus, apice rotundatus, pyrenis 2 dorso obtuse 5-costatis facie interiore planis.—Peru: In dense forest, Soledad, on the Río Itaya, Dept. Loreto, alt. 110 m., September 20-22, 1929, *E. P. Killip and A. C. Smith 29766* (Herb. Field Mus. No. 607,482, type), 29782, 29720. San Antonio, on Río Itaya, 110 m., in dense forest, *Killip & Smith 29462, 29411* (U. S. Nat. Herb.).

It is difficult to suggest a relationship for this well-marked species. Its most striking character is found, probably, in the diminutive corolla.

Psychotria microbotrys Ruiz in herb., sp. nov.—Frutex vel arbor 1-6-metralis praeter inflorescentiam omnino glabra, ramulis gracilibus subteretibus laevibus fusco-olivaceis, internodiis elongatis vel rarius abbreviatis; stipulae persistentes virides vel brunnescentes erectae 14-17 mm. longae tenues liberae fere ad basin bifidae, laciniis lanceolato-triangularibus longe acuminatis; folia petiolata opposita, petiolo crassiusculo 1-2 cm. longo; lamina membranacea elliptico-oblonga usque ad late elliptica 14-24 cm. longa, 7-11 cm. lata, acuta, basi acuta vel breviter angustata, rarius fere rotundata et abrupte contracta, supra laete viridis, costa venisque prominulis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 12 angulo lato interdum fere recto abeuntibus, gracillimis, prominulis, valde arcuatis, marginem attingentibus, nervulis prominulis laxè reticulatis; inflorescentia terminalis late thyrsoido-paniculata, late ovoidea, graciliter 2-6 cm. longe pedunculata, erecta, laxè multiflora, in anthesi 2-5 cm. longa et fere aequilata, in fructu usque ad 7 cm. lata, ramis gracilibus patentibus vel late adscendentibus, in fructu interdum subreflexis, basi paullo incrassatis, glabris vel sparse minuteque puberulis, bracteis linearibus vel subulatis glabris usque ad 6 mm. longis, floribus interdum subsecundis sessilibus vel 1 mm. longe pedicellatis; hypanthium cylindraceum glabrum 0.8 mm. longum, calyce vix 0.5 mm. longo lobulato, lobulis late rotundatis; corolla extus glabra alba 2.5 mm. longa in alabastro apice rotundata, tubo crasso superne vix dilatato, lobis oblongis tubum aequantibus; stylus 2 mm. longus glaber; fructus glaber subglobosus 3 mm. longus, basi et apice rotundatus, pyrenis 2 dorso acute 5-costatis, facie interiore profunde concavis et excavatis.—Peru: In forest, La Victoria on the Amazon River, August 31, 1929, *Llewelyn Williams 2983* (Herb. Field Mus. No. 608,877, type). In Peruviae Andium nemoribus, *Ruiz* (photo. of specimen in herb. Berol.). In dense forest, Pichis Trail, Santa Rosa, Dept. Junín, 625-900 m., *Killip & Smith 26173*.—Venezuela: In forest, Motoekorunya, Río Canaracuni, April

13, 1912, *Koch-Grünberg 21* (Herb. Berol.).—Bolivia: San Carlos, region of Mapiri, 850 m., *Buchtien 1467* (Herb. Berol.), *1466* (Herb. Berol., U. S. Nat. Herb.).

Although this species has an unusually broad area of distribution, it has been impossible to find any published name which seems to relate to it. The recently collected specimens evidently are identical with the Peruvian specimen existing in the Berlin herbarium, whose label bears the unpublished name of Ruiz employed here.

Psychotria microbotrys is not closely related to any other species of which material is available. In habit it suggests rather strikingly various species of *Palicourea*, but in flower structure it appears to be better referable to *Psychotria*. The large stipules, thyriform panicle, and very small fruits offer distinctive characters.

***Psychotria nigricans*, sp. nov.**—Frutex vel arbuscula, ramulis crassiusculis teretibus fuscis dense minuteque puberulis, internodiis elongatis; stipulae erectae persistentes fere ad basin bifidae, extus dense et minute puberulae, laciniis triangulari-lanceolatis attenuatis; folia breviter petiolata opposita, petiolo gracili 1–2.5 cm. longo dense et sordide puberulo; lamina membranacea in sicco nigrescens lanceolata, lanceolato-oblonga vel elliptico-oblonga, 12–24 cm. longa, 4–9 cm. lata, longe et sensim vel abrupte acuminata, acumine angusto attenuato acuto interdum falcato, basin versus longe vel breviter angustata, basi ipsa acuta, supra glabra vel ad costam minute puberula, costa venisque prominentibus, subtus ad costam venasque puberula vel breviter pilosula, costa gracili elevata, nervis lateralibus utroque latere c. 19 obliquis, angulo latiusculo adscendentibus, gracillimis, prominentibus, leviter curvis, juxta marginem conjunctis, nervulis paucis et inconspicuis laxe reticulatis; inflorescentia terminalis 0.5–3 cm. longe pedunculata, densissime multiflora, e cymulis c. 5–9 capituliformibus breviter pedunculatis composita, in anthesi c. 2 cm. longa et aequilata, in statu fructifero laxior et 4 cm. longa et lata, ramis crassis densissime puberulis vel pilosulis patentibus vel adscendentibus, bracteis foliaceis lanceolatis vel lineari-lanceolatis plerumque 5–8 mm. longis subadpressis glabris vel minute puberulis villosis-ciliatis, bracteolis numerosissimis linearibus et brevioribus dense longeque villosis-ciliatis, floribus arcte sessilibus; calyx ad apicem drupae persistens 1 mm. longus puberulus 5-dentatus; fructus ellipsoideus sordide puberulus 7–8 mm. longus et 6 mm. latus, pyrenis 2 dorso obtuse 5-costatis facie interiore planis.—Peru: In forest, Pebas, on the Amazon River, Dept. Loreto, July 23, 1929, *Llewelyn Williams 1603* (Herb. Field Mus. No. 604,594, type). Also, from the same locality, Nos. 1569, 1777, 1621, 1570.

Vernacular name, "sonia."

***Psychotria pichisensis*, sp. nov.**—Frutex vel arbor usque ad 7.5 m. altus, ramulis crassiusculis teretibus brunnescentibus glabris, internodiis elongatis; stipulae caducae oblongae acutae 6 mm. longae

tenues brunnescentes glabrae et minute ciliolatae; folia breviter petiolata opposita, petiolo 8–14 mm. longo crassiusculo ciliolato; lamina chartacea elliptico-oblonga vel oblanceolato-oblonga 12–17 cm. longa, 4–5.5 cm. lata, sensim vel abrupte acuminata vel longi-acuminata, acumine angusto longe attenuato acuto interdum subfalcato, basin versus longe sensimque angustata, glabra, supra in sicco cinereo-viridis, costa venisque vix elevatis, subtus concolor, costa crassiuscula elevata, nervis lateralibus utroque latere 11–13 angulo lato abeuntibus, gracillimis, prominentibus, pallidis, leviter arcuatis, prope marginem conjunctis, nervulis prominulis vel obscuris laxe reticulatis; inflorescentia terminalis late pyramidalis-paniculata 7–12 cm. longa et 10–17 cm. lata, 3–4 cm. longe pedunculata, laxa multiflora, ramis primariis patentibus vel subreflexis oppositis sparse minuteque pilosulis vel fere glabris gracilibus, bracteis caducis, floribus in cymulas laxas paucifloras paniculatas dispositis, pedicellis crassiusculis 2–4 mm. longis minute puberulis; calyx ad apicem baccae persistens annuliformis 0.5 mm. longus truncatus vel remote denticulatus; fructus immaturus subglobosus 5 mm. longus glaber, basi acutiusculus, apice rotundatus, pyrenis 2 dorso obtuse 5-costatis facie interiore planis.—Peru: In dense forest, Pichis Trail, San Nicolás, Dept. Junín, alt. 1,100 m., July 4–5, 1929, *E. P. Killip and A. C. Smith 25993* (Herb. Field Mus. No. 607,622, type). Between Ayupizú and Santa Rosa, Pichis Trail, 650 m., in dense forest, *Killip & Smith 26138*.

The plant has no outstanding characters, but it is probably a relative of *P. alba* R. & P., differing conspicuously from that species in its broad and laxly flowered inflorescence.

***Psychotria juninensis*, sp. nov.**—Frutex 1.5–2 m. altus omnino glaber, ramulis gracillimis teretibus olivaceis vel ferrugineis, internodiis elongatis; stipulae deciduae, non visae; folia graciliter petiolata opposita, petiolo 7–11 mm. longo; lamina membranacea anguste pallido-marginata breviter oblongo-elliptica 7–9.5 cm. longa, 2.2–3.5 cm. lata, abrupte longeque caudato-acuminata, acumine angusto interdum fere lineari plerumque 1.5–2 cm. longo attenuato acuto, basi acuta, supra viridescens, costa venisque vix elevatis, subtus fere concolor, in axillis costarum saepe conspicue domatiata, costa gracili elevata, nervis lateralibus utroque latere c. 7 angulo lato abeuntibus, gracillimis, prominulis, arcuatis, prope marginem conjunctis, nervulis obscuris laxe reticulatis; inflorescentia terminalis cymoso-corymbosa gracillime 3.5 cm. longe pedunculata, laxa pauciflora, c. 2.5 cm. alta et 5 cm. lata, basi trichotoma, ramis primariis subpatentibus gracillimis, bracteis minutis triangularibus acutis persistentibus vix 0.5 mm. longis, floribus in cymulas paucifloras dispositis, pedicellis gracilibus rectis c. 3 mm. longis; hypanthium late turbinatum 0.6 mm. longum, calyce lato truncato vel remote 5-denticulato hypanthium fere aequante; corolla viridi-alba in alabastro 3 mm. longa extus glabra apice apiculata, lobis acutis tubo fere duplo longioribus.—Peru:

Puerto Bermúdez, Dept. Junín, alt. 375 m., in dense forest, July 14-17, 1929, *E. P. Killip and A. C. Smith 26525* (Herb. Field Mus. No. 607,546, type).

The plant bears some resemblance to *P. hylocharis* Standl., described from Colombia. It is related also to *P. tenuicaulis* Krause, a native of Peru. The latter differs in its short-petioled leaves with broad bases and in the presence of pubescence on the stems and leaves.

***Psychotria candelabrum*, sp. nov.**—Frutex, ramulis crassiusculis in sicco striatis viridibus dense velutino-pilosulis, internodiis elongatis; stipulae persistentes virides suberectae in vaginam truncatam 1-1.5 mm. longam connatae, vagina in lobos 4 triangulares acutos dense pilosulos 4-5 mm. longos desinente; folia breviter petiolata opposita, petiolo crassiusculo 1.5 cm. longo dense et minutissime pilosulo; lamina firme membranacea obovato-elliptica 20-24 cm. longa, 9-10 cm. lata, apice acuta vel obtusiuscula et caudato-acuminata, acumine fere 2 cm. longo triangulari longe attenuato, basin versus cuneatim angustata, supra laete viridis, ad costam venasque dense minuteque pilosula, aliter glabra, costa venisque prominentibus, venulis manifestis sed vix elevatis, subtus fere concolor, ad venas puberula, aliter glabra vel glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 16 angulo semirecto abeuntibus, gracilibus, prominentibus, arcuatis, juxta marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis cymoso-umbellata 2 cm. longe pedunculata, c. 1.5 cm. longa et 3.5 cm. lata, ramis primariis fastigiatis subpatentibus pallidis dense velutino-pilosulis, basi non bracteatis, bracteis supra basin rami insertis linearibus vel subulatis plerumque 3-6 mm. longis, cymis dense breviterque fastigiato-ramulosis fere capituliformibus numerosis dense multifloris, floribus sessilibus vel brevissime pedicellatis; hypanthium late turbinatum 0.5 mm. longum ut calyx dense pilosulum, calyce 0.5 mm. longo pallido acute dentato; corolla non visa.—Peru: In forest, La Victoria, on the Amazon River, Dept. Loreto, August 23, 1929, *Llewelyn Williams 2702* (Herb. Field Mus. No. 604,492, type).

Because of the absence of corollas, it is not certain that this plant is not a *Palicourea* rather than a *Psychotria*. I have not been able to associate it with any described species of either group.

***Psychotria stenostachya*, sp. nov.**—Frutex vel arbor 1-7.5 m. alta, ramulis crassiusculis subteretibus vel obtuse tetragonis, vetustioribus plerumque ochraceis sordidis, novellis interdum ferrugineis plus minusve dense adpresso-pilosulis, internodiis brevibus vel elongatis; stipulae persistentes erectae ferrugineo-tomentellae in vaginam truncatam 4-6 mm. longam incrassatam connatae, vagina in lacinias 4 remotas lineari-subulatas 5-9 mm. longas desinente; folia petiolata opposita, petiolo crassiusculo 1-2.5 cm. longo adpresso-pilosulo vel glabrato; lamina firme membranacea elliptica, oblonga-elliptica vel

obovato-elliptica, 14–26 cm. longa, 4.5–12 cm. lata, abrupte acuminata, acumine anguste triangulari attenuato, basi acuta vel abrupte acuminata, interdum basin versus cuneatim angustata, supra viridis, glabra, costa venisque non elevatis, subtus pallidior, saepe brunnes-cens, ad costam venasque minute ferrugineo-puberula vel minute adpresso-pilosula, aliter glabra vel glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 13 angulo acuto abeuntibus, obliquis, gracillimis, prominentibus, arcuatis, juxta marginem conjunctis vel in marginem desinentibus, venulis transversis arcte subparallelis; inflorescentia terminalis 4–10.5 cm. longa, 0.8–1.5 cm. lata, spiciformis, 1–3 cm. longe pedunculata, e cymulis numerosis sessilibus vel usque ad 5 mm. longe pedunculatis compositis, cymulis dense pauci- vel multifloris, rhachi dense ferrugineo-tomentosa, bracteis inferioribus triangularibus vel lanceolatis plerumque 3–6 mm. longis acutis vel acuminatis subrigidis, floribus arcte sessilibus; hypanthium 0.5 mm. longum tomentellum vel glabratum, calyce 0.5 mm. longo tomentello vel glabrato late campanulato truncato vel inaequaliter denticulato; corolla viridi-alba extus ferrugineo-tomentella vel interdum glabrata in alabastro apice tuberculis 5 angustis elongatis onusta, tubo crassiusculo c. 5 mm. longo superne non vel vix dilatato in fauce non barbato, lobis 5 ovato-oblongis adscendentibus 2 mm. longis obtusis; antherae subexsertae lineares recurvae fere 2 mm. longae; fructus aurantiacus subglobosus 6 mm. longus glabratus basi et apice rotundatus, pyrenis 5 dorso obtuse costatis facie interiore angustis et anguste leviterque sulcatis.—Peru: In dense forest, San Antonio, on Río Itaya, Dept. Loreto, alt. 110 m., September 18, 1929, *E. P. Killip and A. C. Smith 29294* (Herb. Field Mus. No. 607,496, type), 29419, 29413, 29346. Pebas, on the Amazon River, Dept. Loreto, July 23, 1929, *Williams 1606*; growing in forest. In mountains along the Río Mayo near Tarapoto, in 1856, *Spruce 4383*. In forest at foot of Mount Campana, December, 1855, *Spruce 4383*. Soledad, on Río Itaya, Dept. Loreto, in dense forest, *Killip & Smith 29574, 29767*. Pichis Trail, near Puerto Jessup, 400 m., *Killip & Smith 26220*. Between Yurimaguas and Balsapuerto, lower Río Huallaga Basin, Dept. Loreto, 135–150 m., in dense forest, *Killip & Smith 28160*. Puerto Arturo, below Yurimaguas, 135 m., in dense forest, *Killip & Smith 27925* (U. S. Nat. Herb.). Balsapuerto, in dense forest, 150–350 m., *Killip & Smith 28639* (U. S. Nat. Herb.).

Psychotria stenostachya appears to be a member of the small subgenus *Nonatelia*, which is distinguished by its 5-celled fruit. This species is closely related to *P. Tessmannii* Standl., described recently from Peru, but that differs in having a narrow thyriform panicle, which is comparatively loosely flowered, rather than a spikelike inflorescence. *Spruce 4383*, listed above, was cited at the time of publication of *P. Tessmannii* as representative of that species, but the ample material obtained by recent collectors proves that two very well marked species are involved.

Psychotria ilheosana, nom. nov. *Mapouria crassa* Muell. Arg. in Mart. Fl. Bras. 6^s: 389. 1881, non *P. crassa* Benth. 1841.

Psychotria aemulans (Muell. Arg.), comb. nov. *Mapouria aemulans* Muell. Arg. in Mart. Fl. Bras. 6^s: 417. 1881.

Psychotria umbelluligera (Muell. Arg.), comb. nov. *Mapouria umbelluligera* Muell. Arg. Flora 59: 496, 497. 1876.

Psychotria tristicula, nom. nov. *Mapouria tristis* Muell. Arg. Flora 59: 458, 465. 1876, non *P. tristis* Winkl. 1909.

This Brazilian species belongs to a group in which Mueller seems to have given names to too large a number of forms of doubtful specific value. *P. tristicula* is a close relative of *P. alba* R. & P.

Psychotria proxima, nom. nov. *Mapouria Martiana* Muell. Arg. Flora 59: 458, 464. 1876, non *P. Martiana* Muell. Arg. 1881.

Psychotria puberulina (Muell. Arg.), comb. nov. *Mapouria puberulina* Muell. Arg. Flora 59: 459, 465. 1876.

Psychotria Glaziovii Muell. Arg. in Mart. Fl. Bras. 6^s: 267. 1881.

The species was based upon three Brazilian collections, *Glaziou 3037* and *Riedel 118* and *643*. Mueller states that he had not seen the fruit, but a specimen from the Berlin herbarium ("Ex herb. Eichler") collected by Glaziou, without number, date, or definite locality, bears mature fruit. This is globose or ellipsoid, 7 mm. long, glabrous, rounded at base and apex, nearly smooth, and crowned by the large persistent calyx. The two pyrenes are broadly rounded on the back, and plane on the inner surface but very shallowly and narrowly sulcate longitudinally.

Psychotria nuda (C. & S.) Wawra, Itin. Princ. Coburg. 1: 128. 1883. *Cephaelis nuda* C. & S. Linnaea 4: 135. 1829. *Suteria nuda* Mart. Flora 24: Beibl. 71. 1841. *Suteria Hookeriana* Gardn. in Hook. Lond. Journ. Bot. 4: 109. 1845, non *P. Hookeriana* Steud. *P. Gardneriana* Muell. Arg. in Mart. Fl. Bras. 6^s: 379. 1881, non *P. Gardneriana* Muell. Arg. op. cit. 235.

The genus *Psychotria* is so large that there is some excuse for overlooking earlier published specific names, but it is rather curious that Mueller in the *Flora Brasiliensis* should have proposed the name *Psychotria Gardneriana* for two distinct species (the other is a *Pali-courea*). He rejected the earlier name *nuda* for this species because he considered it inappropriate.

Psychotria cupularis (Muell. Arg.), comb. nov. *Mapouria cupularis* Muell. Arg. Flora 59: 459, 465. 1876.

Psychotria brachyanthema, sp. nov.—Dense ramosa, ramulis gracillimis teretibus laevibus olivaceis, internodiis abbreviatis glabris; stipulae minutae erectae persistentes viridescentes in vaginam c. 0.7 mm. longam truncatam connatae, vagina laciniis 4 remotis subulatis 0.5 mm. longis instructa; folia breviter petiolata opposita, petiolo gracili glabro 2–5 mm. longo; lamina crasse membranacea anguste lanceolato-oblonga 2.5–5 cm. longa, 0.7–1.5 cm. lata, longe et subabrupte acuminata, acumine angusto attenuato apice obtusiusculo, basin versus sensim angustata, glabra, supra in sicco viridis, lucidula, costa elevata, venis prominulis, subtus paullo pallidior, anguste marginata, costa gracili elevata utrinque anguste marginata, nervis lateralibus utroque latere 6–7 obliquis, angulo acuto adscendentibus, vix prominulis, gracilibus, marginem fere attingentibus, nervulis obsoletis; inflorescentia terminalis graciliter 1–1.5 cm. longe pedunculata parva, dense c. 9-flora, c. 1 cm. longa et lata, basi trichotoma, e cymulis plerumque 3 densifloris composita, ramis suberectis ut pedunculus gracilibus sparse minuteque puberulis, basi bracteatis, bracteis subulatis puberulis 1–2 mm. longis, floribus minute bracteolatis 1–2 mm. longe pedicellatis, pedicellis apice articulatis; hypanthium late obovoideum 0.7 mm. longum minutissime puberulum, calyce fere aequilongo 5-lobato, lobis ovatis acutis extus minute puberulis; corolla in alabastro oblonga 3.5 mm. longa apice rotundata extus minute griseo-pulverulacea.—Brazil: Without definite locality, 1893–94, A. Glaziov 20361 (Herb. Berol., type).

Apparently a member of the subgenus *Eupsychotria*, section *Brachythyrseae*, group *Nitidulae*, and related to *P. nitidula* C. & S. In that species, however, the corolla is glabrous.

Psychotria Robertii, sp. nov.—Omnino glabra, ramulis gracillimis teretibus viridibus, vetustioribus ochraceis, internodiis plerumque 1–2 cm. longis; stipulae minutae persistentes in vaginam truncatam vix 1 mm. longam induratum connatae, vagina dentibus 4 minutis subulatis instructa; folia petiolata opposita, petiolo gracillimo 6–10 mm. longo; lamina membranacea anguste lanceolato-oblonga 5–9.5 cm. longa, 1–2 cm. lata, versus apicem longe sensimque attenuata, apice ipso anguste obtuso, versus basin brevius angustata, supra in sicco laete viridis, vix lucidula, costa venisque vix prominulis, subtus paullo pallidior, lucidula, costa gracillimo elevata, nervis lateralibus utroque latere c. 11 tenerrimis angulo fere recto abeuntibus, prominulis, fere rectis, prope marginem conjunctis, nervulis obscuris laxè reticulatis; inflorescentia terminalis gracillime 2–2.5 cm. longe pedunculata, interdum basi folio reducto fulcrata, cymoso-paniculata, laxissime multiflora, 2–4 cm. longa, 4–7 cm. lata, basi trichotoma, superne oppositiramosa vel dichotoma, ramis gracillimis adscendentibus vel patentibus basi bracteatis, bracteis minutis triangularibus acutis, floribus omnibus pedicellatis in cymulas vel

umbellulas c. trifloras dispositis, pedicellis gracilibus rectis viridibus plerumque 3–4 mm. longis; hypanthium obovoideum c. 0.6 mm. longum basi acutum, calyce persistente hypanthio paullo brevior remote et obsolete 5-denticulato; cetera ignota.—Brazil: Engenheiro Reeve, State of Espirito Santo, January 18, 1903, A. Robert (Percy Sladen Expedition; Herb. Berol., type).

This species is a relative of *P. jasminoides* Standl., of the same region, but the latter has a decidedly different aspect because of its broader and obtuse leaves.

Psychotria jasminoides, sp. nov.—Omnino glabra, ramulis gracillimis subteretibus viridibus, internodiis elongatis; stipulae erectae virides persistentes parvae in vaginam vix 1 mm. longam truncatam connatae, vagina in lacinias minutas lineari-subulatas vix 1 mm. longas remotas desinente; folia breviter petiolata opposita, petiolo gracili 5–10 mm. longo; lamina crasse membranacea oblonga vel oblanceolato-oblonga 4.5–10 cm. longa, 1.5–4 cm. lata, apice obtusa vel acutiuscula, basin versus sensim longeque vel brevius angustata, supra in sicco laete viridis, vix sublucida, costa venisque prominulis, subtus multo pallidior, angustissime et inconspicue marginata, costa gracili elevata, nervis lateralibus utroque latere c. 10 angulo fere recto abeuntibus, gracillimis, prominulis, fere rectis, prope marginem conjunctis, venis interpositis obscuris vel nullis, venulis obscuris vel obsoletis; inflorescentia terminalis 2–3 cm. longe pedunculata cymosocorymboso-paniculata, laxissime multiflora, 2.5–4.5 cm. longa et 3.5–8 cm. lata, basi trichotoma, supra oppositiramosa, ramis gracillimis angulo lato adscendentibus viridibus angulatis, basi bracteatis, bracteis lanceolato-subulatis 1 mm. longis vel brevioribus persistentibus, bracteolis hypanthio vulgo paullo brevioribus, floribus in cymulas laxae trifloras dispositis, pedicellis rectis viridibus 2–5 mm. longis, flore centrali sessili; hypanthium viride turbinato-cylindraceum 1 mm. longum, calyce late campanulato hypanthio paullo breviori et latiore remote breviterque denticulato; corolla extus glabra pallida in alabastro clavata et apice depressa late 4-tuberculata, tubo in anthesi gracili 6 mm. longo superne paullo dilatato recto, lobis 4 patentibus ovato-ovalibus apiculato-acutis intus glabris; antherae breviter exsertae lineari-oblongae 1.5 mm. longae.—Brazil: Engenheiro Reeve, State of Espirito Santo, A. Robert (Percy Sladen Expedition; Herb. Berol., type).

A member of the group *Pedicellatae* of Mueller's subgenus *Eupsychotria*, section *Brachythyrseae*, and related to *P. nemorosa* Gardn. and *P. leiocarpa* C. & S. From both those species the present plant differs in its obtuse, oblanceolate-oblong leaves, which retain their bright green color when dried.

Psychotria rauwolfioides, sp. nov.—Frutex omnino glaber, ramulis teretibus pallide viridibus gracilibus, internodiis valde elongatis saepe folia fere aequantibus; stipulae erectae persistentes in

vaginam incrassatam truncatam annuliformem 1 mm. longam connatae, margine vaginae laciniis 4 dentiformibus 1 mm. longis remotis instructo; folia breviter petiolata opposita, petiolo supra leviter sulcato gracili 7–10 mm. longo; lamina crasse membranacea elliptico-oblonga vel anguste elliptico-oblonga 8–14 cm. longa, 3–4.5 cm. lata, subabrupte acuminata, acumine anguste triangulari attenuato obtuso, basi acuta, supra viridescens, lucida, costa non elevata, venis prominulis, subtus multo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 13 angulo fere recto abeuntibus, gracilimimis, prominulis, subcurvis, prope marginem conjunctis, aliis plerumque 2 tenuioribus et brevioribus parallelis interjectis, nervulis prominulis arcte reticulatis; inflorescentia terminalis sessilis cymosopaniculata 4.5 cm. longa et aequilata basi trichotoma, ramis 3 primariis nudis fere 3 cm. longis olivaceis subcompressis, cymis c. 1.5 cm. longis et latis dense multifloris, bracteis ad basin ramorum viridescens triangularibus acuminatis, floribus dense congestis sessilibus; hypanthium late turbinatum 1 mm. longum, calyce fere aequilongo late campanulato hypanthio latiore remote 5-dentato, dentibus anguste triangularibus acutis; corolla in alabastro fere columnaris 2–2.5 mm. longa extus glabra dense flavo-barbata, in tota longitudine crasse 5-costata, apice subtruncata et brevissime obtuseque 5-tuberculata, lobis ovalibus patentibus apice subcucullatis et obtusis tubum aequantibus vel subaequantibus; antherae subexsertae oblongae; stylus crassiusculus corollae subaequalis, ramis brevibus incrassatis.—Brazil: Without definite locality, 1890–91, A. Glaziov 18302 (Herb. Berol., type).

Referable to the group *Nitidulae* of Mueller's subgenus *Eupsycho-
tria*, section *Brachythyrseae*, and apparently a close relative of *P.
pentaphthosa* Muell. Arg. That species has a corolla twice as large
as in *P. rauwolfioides*.

Psychotria Krauseana, nom. nov. *P. inundata* Krause, Verh.
Bot. Ver. Brandenb. 50: 108. 1908, non *P. inundata* Benth. 1841.

Psychotria ibitipocae, sp. nov.—Frutex, ramulis gracilibus tere-
tibus ochraceis dense minuteque asperulo-puberulis, internodiis 3–3.5
cm. longis; stipulae suberectae persistentes extus puberulae et strigo-
sae in vaginam 3 mm. longam connatae, vagina in lacinias 4 approxi-
matas 4–5 mm. longas lanceolato-attenuatas intus glabras desinente;
folia breviter petiolata opposita, petiolo subgracili 3–4 mm. longo
scaberulo-puberulo; lamina firme membranacea lanceolata vel lanceo-
lato-oblonga 4.5–7 cm. longa, 1.5–2 cm. lata, longe sensimque
attenuato-acuminata, acumine angusto obtuso, basi obtusa vel acuta,
supra in sicco fusca, minute denseque scaberulo-puberula, costa
prominente, venis non elevatis, subtus pallidior, praesertim ad venas
asperulo-puberula, costa gracili elevata, nervis lateralibus utroque
latere c. 6 valde obliquis, angulo angusto adscendentibus, gracilibus,
prominentibus, in marginem desinentibus, nervulis subimpressis arc-
tissime reticulatis; inflorescentia terminalis sessilis capitiformis c.

2.5 cm. longa et aequilata, basi trichotoma, ramis primariis crassiusculis usque ad 11 mm. longis sparse puberulis vel glabratis, bracteis exterioribus in sicco purpurascentibus late ovatis 8–9 mm. longis acutis vel breviter acuminatis utrinque scaberulo-puberulis ciliatis, bracteis interioribus paullo brevioribus sed flores fere aequantibus, floribus “caeruleis” sessilibus; hypanthium breve turbinatum, calyce c. 1 mm. longo glabrato 5-fido, laciniis triangularibus vel anguste triangularibus acutis; corolla extus glabra, tubo crasso 10 mm. longo superne sensim dilatato fauce 3 mm. lato, intus non barbato, lobis 5 patentibus oblongo-triangularibus acutiusculis 2 mm. longis; antherae subexsertae lineari-oblongae 2 mm. longae.—Brazil: Serra de Ibitipoca, June, 1896, *H. Magalhaes 1356* (Herb. Berol., type).

The plant belongs to Mueller's subgenus *Cephaelis*, group *Paniculastreae*, and is related to *P. purpurascens* Muell. Arg. and *P. mesotropa* Muell. Arg., both of which are Brazilian. *P. mesotropa* differs in having a corolla 5 mm. long whose lobes equal the tube; in *P. purpurascens* the corolla is villous-pubescent.

***Psychotria friburgensis*, sp. nov.**—Ramosa, ramulis crassiusculis teretibus in sicco fuscis glabris, internodiis mediocribus; stipulae glabrae subpersistentes in vaginam truncatam vix 1 mm. longam connatae, vagina laciniis 4 minutis denticulatis 0.5 mm. longis instructa; folia petiolata opposita, petiolo gracili 9–14 mm. longo glabro; lamina papyracea obovato-elliptica 6–9.5 cm. longa, 2.5–5 cm. lata, abrupte acuta vel breviter acuminata, acumine triangulari obtusiusculo, basin versus plus minusve abrupte et longius vel breviter angustata, glabra, supra lucidula, in sicco fusca, costa venisque non elevatis, subtus multo pallidior, ubique dense minuteque pallido-puncticulata, costa gracili elevata, nervis lateralibus utroque latere c. 11 obscuris, non elevatis, angulo latiusculo adscendentibus, in marginem desinentibus, nervulis obsoletis; inflorescentia terminalis 5 mm. tantum longe pedunculata, late cymoso-paniculata, c. 5 cm. longa et 7 cm. lata, laxe multiflora, basi trichotoma, superne oppositoramosa vel dichotoma, ramis gracilibus angulatis minutissime puberulis vel fere glabris adscendentibus vel subpatentibus, basi bracteatis, bracteis infimis lineari-subulatis usque ad 4 mm. longis, superioribus brevioribus persistentibus lanceolatis vel triangularibus acutis, floribus bracteolatis in cymulas plerumque trifloras dispositis, flore centrali sessili, ceteris pedicellatis, pedicellis crassiusculis rectis plerumque 3–5 mm. longis minute puberulis vel glabratis; hypanthium ut calyx minute pulverulaceum late obovoideum 0.6 mm. longum, calyce hypanthio multo latiore 0.5 mm. longo truncato vel remote et obsolete lobulato; corolla extus dense furfuraceo-tomentella in alabastro apice obtusa, tubo crassiusculo 6 mm. longo superne sensim dilatato, in fauce non barbato, lobis 5 triangulari-oblongis obtusis 2 mm. longis intus minute papillois; antherae inclusae; stylus breviter exsertus.—Brazil: Friburgo, May, 1884, *Mendonça 1054* (Herb. Berol., type).

This plant bears some resemblance to *P. pallens* Gardn., although it is not by any means certain that that species is its nearest relative. *P. pallens* has longer and relatively narrower leaves with conspicuous veins.

Psychotria Loeffgrenii, sp. nov.—Omnino glabra, ramulis gracilibus teretibus laevibus in sicco olivaceo-brunnescentibus, internodiis valde elongatis; stipulae minutae persistentes erectae 1.5–2 mm. longae in vaginam brevissimam incrassatam connatae, vagina lacinii 4 subulatis rigidis onusta; folia sessilia crasse membranacea lanceolato-oblonga vel ovato-oblonga 11–15 cm. longa, 4–6.5 cm. lata, versus apicem acutum sensim angustata, basi anguste rotundata et emarginata, supra in sicco lutescens, lucidula, costa anguste sulcata, venis prominentibus, subtus concolor, costa gracili elevata, nervis lateralibus utroque latere c. 9 obliquis, angulo lato adscendentibus, gracilibus, prominentibus, remote a margine conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis 4 cm. longe pedunculata, late depresso-cymoso-paniculata, corymbiformis, c. 2.5 cm. longa et 4 cm. lata, laxa multiflora, ramis alternis late adscendentibus gracilibus angulatis basi bracteatis, bracteis lineari-subulatis 1–2 mm. longis persistentibus inconspicuis, floribus in cymulas irregulares laxas dispositis, pedicellis 1–3 mm. longis superne incrassatis apice articulatis; hypanthium 1 mm. longum campanulatum basi late rotundatum, calyce hypanthio duplo brevior subpatente truncato vel brevissime remoteque denticulato; corolla extus glabra in alabastro 3.5 mm. longa apice obtusa et obscure tuberculata, lobis latis obtusis tubo aequilongis vel paullo brevioribus.—Brazil: Ilha de San Sebastião, São Paulo, July 26, 1895, *Alb. Löfgren 11734* (Herb. Berol., type).

The plant seems to belong to Mueller's subgenus *Eupsychotria*, section *Brachythyrseae*. In that group it is noteworthy for its sessile leaves.

Psychotria Wilkesiana, sp. nov.—Ut videtur densiuscule ramosa, ramulis crassiusculis subteretibus, vetustioribus ochraceis glabris, novellis dense pilis patentibus hispidulis, internodiis brevibus vel plus minusve elongatis; stipulae persistentes suberectae hispidulae in vaginam truncatam incrassatam 2–2.5 mm. longam connatae, vagina in lacinias 4 erectas subulatas 1.5–2 mm. longas desinente; folia breviter petiolata opposita, petiolo gracili 3–5 mm. longo hispidulo; lamina crasse membranacea elliptica vel ovato-elliptica 4.5–7 cm. longa, 1.8–3 cm. lata, abrupte acuminata, acumine angusto attenuato, basi acuta vel breviter contracta, supra in sicco fusca, glabra, interdum sublucida, costa venisque subimpressis, subtus parum pallidior, saltem ad venas sordide puberula, costa gracillima elevata, nervis lateralibus utroque latere c. 9 obliquis, angulo lato adscendentibus, gracilibus, prominentibus, valde arcuatis, in marginem desinentibus, nervulis numerosissimis sed obscuris; inflorescentia terminalis 1–1.5 cm. longe pedunculata depresso-cymoso-paniculata, corymbiformis

vel subglobosa, 1.5–2 cm. longa, 1.5–2.5 cm. lata, dense multiflora, compacta, pedunculo dense hispidulo, ramis brevibus crassiusculis oppositis vel subfasciculatis dense sordido-puberulis basi bracteatis, bracteis lineari-subulatis plerumque 1–1.5 mm. longis, floribus in cymulas parvas densas dispositis plerumque breviter crasseque pedicellatis; hypanthium vix 1 mm. longum minutissime puberulum turbinatum, calyce subpatente c. 0.5 mm. longo truncato vel obscure remoteque lobulato; corolla extus dense pulverulacea 5 mm. longa, in alabastro apice depressa et grosse obtuseque 5-tuberculata, tubo crasso superne vix dilatato in fauce non barbato, lobis 5 late oblongis obtusis patentibus 1.5 mm. longis; antherae subexsertae lineares 1.7 mm. longae.—Brazil: Rio de Janeiro, *Sello* (Herb. Berol., type). Without definite locality, *Wilkes Exploring Expedition* (U. S. Nat. Herb.).

The species is a well-marked one because of its small leaves, characteristic pubescence, and distinctive corolla, but I have not been able to determine satisfactorily its relationship.

***Psychotria tapajozensis*, sp. nov.**—Frutex 1–2-metralis, ramulis crassis in sicco subcompressis et fuscis glabris, internodiis brevibus; stipulae in vaginam persistentem glabram truncatam 6 mm. longam erectam connatae; folia breviter petiolata opposita, petiolo crassiusculo 2–3 cm. longo; lamina in sicco crasse membranacea oblanceolato-oblonga 17–34 cm. longa et ultra, 4–8 cm. lata, abrupte breviterque acuminata, acumine triangulari acuto, basin versus longissime sensimque attenuata, glabra, minute albido-puncticulata, in sicco fusca, costa venisque supra non elevatis, costa crassiuscula subtus prominente, nervis lateralibus numerosis tenerrimis obscuris angulo acuto adscendentibus; inflorescentia terminalis cymoso-paniculata c. 4.5 cm. longa et aequilata, dense multiflora, late ovoidea, 10 cm. longe pedunculata, pedunculo crasso glabro, ramis crassis et plus minusve compressis basi saepe valde dilatatis et bracteatis, infimis verticillatis patentibus, superioribus divaricatis vel interdum subreflexis, bracteis persistentibus late ovato-triangularibus acutis vix 2 mm. longis, floribus in cymulas parvas dispositis, sessilibus vel crasse 1–2 mm. longe pedicellatis; hypanthium cylindraceum glabrum 0.8 mm. longum, calyce lato 0.5 mm. longo breviter 5-lobulato, lobis rotundatis vel obtusis; corolla vinacea extus glabra in alabastro anguste clavata 6 mm. longa apice obtusa vel rotundata, lobis tubo multo brevioribus.—Brazil: San Gabriel, Río Tapajoz, January, 1916, *Kuhlmann 1458* (Herb. Berol., type).

According to the collector, the rachis of the inflorescence is at first white, but after anthesis reddish-vinaceous, and the fruits (none are present on the specimen) also are reddish-vinaceous.

The gross characters of this plant are similar to those of the widely distributed *P. uliginosa* Sw., in which the inflorescence is axillary.

From the rather unsatisfactory specimen of *P. tapajozensis* available for study, the inflorescence appears to be definitely terminal, although this is not altogether certain.

Psychotria lucidifolia, sp. nov.—Ramuli graciles teretes ferrugineo-fusci glabri; stipulae erectae persistentes minutae in vaginam vix 1 mm. longam truncatam connatae, vagina in lacinias 4 vix 1 mm. longas remotas anguste triangulares desinente; folia brevissime petiolata opposita, petiolo gracili 2–3 mm. tantum longo glabro; lamina membranacea elliptico-oblonga usque ad late elliptica 6–20 cm. longa, 2.5–8 cm. lata, abrupte acuta vel breviter acuminata, interdum subrotundata et apiculato-acuminata, acumine triangulari acuminato, basi acuta vel rare subobtusata, interdum basin versus sensim angustata, glabra, supra olivacea, lucida, costa venisque prominulis, venulis quoque prominulis et conspicuis, subtus opaca, costa gracili elevata, nervis lateralibus utroque latere c. 10 obliquis, angulo semirecto vel latiore abeuntibus, gracilibus, prominentibus, leviter arcuatis vel fere rectis, in marginem desinentibus, nervulis prominulis arcte reticulatis; inflorescentia terminalis 1–2.5 cm. longe pedunculata capituliformis 12–15 mm. longa et 2–3 cm. lata, dense multiflora, basi trichotoma et exinvolucrata, pedunculo ut rami sparse minuteque piloso, ramis primariis usque ad 4 mm. longis, floribus sessilibus dense congestis, bracteis exterioribus foliaceis ellipticis vel ovatis 8–12 mm. longis, c. 6 mm. latis, acutis, basi breviter angustatis, venosis, glabratis, ciliatis, interioribus brevioribus et angustioribus; hypanthium ut calyx glabrum c. 0.7 mm. longum, calyce late campanulato aequilongo truncato et minute remoteque denticulato; corolla in alabastro apice sparse pilosula, aliter glabra, tubo 7 mm. longo infra gracillimo supra abrupte dilatato fauce non barbato, lobis 5 lanceolato-oblongis acutis fere 5 mm. longis intus glabris; antherae exsertae lineares subcurvae 2 mm. longae.—Brazil: Without locality data, A. Glaziou 13933 (Herb. Berol., type), 9891 (Herb. Berol.).

Referable to Mueller's subgenus *Eupsychotria*, section *Bracteosae*.

Palicourea corymbifera (Muell. Arg.), comb. nov. *Psychotria corymbifera* Muell. Arg. in Mart. Fl. Bras. 6^o: 247. pl. 35. 1881.

The following recent collections of this species are in the herbarium of Field Museum: Brazil: Manaos, State of Amazonas, in sandy forest or dense woods, Killip & Smith 30141, 30104; a tree 4.5–7.5 m. high; branches of the inflorescence and the calyx yellow; corolla red.

Palicourea obscurata (Muell. Arg.), comb. nov. *Psychotria obscurata* Muell. Arg. in Mart. Fl. Bras. 6^o: 253. 1881.

Palicourea subspicata Huber, Bol. Mus. Goeldi 4: 613. 1906.

Of this curious and anomalous species the following specimens exist in the herbarium of Field Museum: Peru: Cerro de Cancha-

huaya, November 2, 1898, *Huber 1415* (photo. and fragment of type, from herb. Goeldi Mus.). Puerto Yessup, Dept. Junín, 400 m., in dense forest, July, 1929, *Killip & Smith 26259*; a slender shrub 1–1.5 m. high; branches of inflorescence and the flowers bright orange.—Brazil: Manaos, in sandy woods, October, 1929, *Killip & Smith 30097*; a tree of 6–7.5 m.; rachis of the inflorescence red; corolla tube deep pink, its lobes purple.

This is the only known species of *Palicourea* which has a simply racemose inflorescence.

***Palicourea Glaziovii*, sp. nov.**—Arbor 3–4-metralis ut videtur dense ramosa, ramulis crassis subteretibus fusco-ferrugineis glabris, internodiis saepe valde abbreviatis; stipulae persistentes erectae et vulgo adpressae 3–5 mm. longae vaginantes breviter bilobae glabrae incrassatae, lobis obtusis vel late rotundatis; folia petiolata opposita, petiolo crassiusculo glabro 1–1.5 cm. longo; lamina crasse coriacea glabra utrinque lucida oblonga vel elliptico-oblonga 6–11.5 cm. longa, 2–4 cm. lata, acuta vel breviter acuminata, apice obtuso, basi acuta vel basin versus breviter angustata, supra in sicco luteo-olivacea vel fusca, costa elevata, venis valde prominentibus, venulis prominulis, subtus fere concolor, costa crassiuscula valde elevata, nervis laterali-bus utroque latere c. 12, aliis tenuioribus interpositis, elevatis, angulo fere recto abeuntibus, gracilibus, arcuatis, in marginem paullo incrassatum desinentibus, venulis prominentibus arcte reticulatis; inflorescentia terminalis 3–4 cm. longe pedunculata, depresso-pyramidali-paniculata vel corymbiformis, dense multiflora, 2–3.5 cm. longa et usque ad 4.5 cm. lata, basi trichotoma, ramis plerumque oppositis patentibus vel late adscendentibus minutissime puberulis vel fere glabris crassis angulatis basi bracteatis, bracteis subulatis persistentibus 2–4 mm. longis, floribus sessilibus vel brevissime pedicellatis in cymulas densas congestis, bracteolis linearibus obtusiusculis; hypanthium late turbinatum ut calyx minute puberulum fere 1 mm. longum, calyce aequilongo profunde 5-lobo, laciniis triangularibus acutis; corolla flava extus minutissime tomentella in alabastro 5 mm. longa apice rotundata, tubo crasso basi paullo ampliato; cetera ignota.—Brazil: Serra das Araras near Therezopolis, in 1888, *A. Glaziov 17033* (Herb. Berol., type). Therezopolis, Prov. Rio de Janeiro, sommet de la Serra das Araras, January, 1888, *J. T. de Moura 179* (Herb. Berol.). Serra das Araras, January, 1890, *de Moura* (Herb. Berol.).

This plant is represented by six full sheets of specimens in the Berlin herbarium, but none of them are in good flowering state. The species is a well-defined one by reason of its thick hard leaves which are very lustrous and have numerous veins. It seems to be altogether different from any of the species listed by Mueller from Brazil, and from those since described from the country.

Palicourea Gilgiana, sp. nov.—Frutex glaber, ramulis gracilibus teretibus laevibus in sicco fusco-olivaceis, internodiis plerumque elongatis; stipulae persistentes erectae in vaginam truncatam vel subtruncatam 1–3 mm. longam connatae; folia petiolata opposita, petiolo gracili 1–2.3 cm. longo; lamina membranacea elliptica, ovato-elliptica vel elliptico-oblonga, 6–14 cm. longa, 2.5–6 cm. lata, abrupte acuminata vel longiacuminata, acumine angusto attenuato apice anguste obtuso, basi acuta vel saepius abrupte contracta et breviter decurrens, supra in sicco luteo-viridis vel subfusca, costa venisque non elevatis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere c. 6 inaequalibus, angulo lato saepe fere recto abeuntibus, gracilibus, prominentibus, arcuatis, juxta marginem conjunctis, venulis prominulis laxae reticulatis; inflorescentia terminalis c. 1 cm. longe pedunculata densissime cymosa capituliformis 1–1.5 cm. longa et 1.5–2 cm. lata multiflora, cymulis brevissimis, bracteis ad basin cymae rotundato-ovatis et brevissimis, floribus sessilibus et congestis; hypanthium 0.8 mm. longum et aequilatum, calyce truncato vel brevissime lobato hypanthio aequilongo; corolla 7–9 mm. longa in alabastro apice depressa et minute 5-tuberculata, tubo gracili basi sigmoideo-curvo supra paullo dilatato, lobis triangularibus obtusis suberectis 1.5 mm. longis intus glabris; antherae subexsertae lineares 2–2.5 mm. longae.—Brazil: Strauch am Riberão fresco bei Blumenau, Prov. Santa Catharina, October, 1888, *E. Ule 1040* (U. S. Nat. Herb., type). Itajahy, Prov. Santa Catharina, a shrub in forest, December, 1885, *Ule 466* (Herb. Berol.). Hammonia, Santa Catharina, *Luederwaldt 11643* (Herb. Berol.).

Referable to Mueller's subgenus *Psychotriopsis*, of which several Brazilian species are known. The present plant, however, seems amply distinct from any of those described by Mueller.

The species is named for Dr. L. Gilg, to whom the writer is deeply indebted for the loan of material of the South American Rubiaceae.

Palicourea Kuhlmannii, sp. nov.—Frutex 3-metralis, ramulis teretibus crassiusculis glabris, internodiis elongatis; stipulae erectae persistentes breviter connatae, lobis late semiovatis obtusissimis contiguus; folia breviter petiolata opposita, petiolo subtereti c. 12 mm. longo glabro crassiusculo; lamina crasse membranacea late lanceolato-oblonga, 19–25 cm. longa, 6.5–9 cm. lata, longe et angustissime acuminata, acumine fere lineari longe sensimque attenuato, basi acuta vel acutiuscula, utrinque glabra, fere concolor, in sicco flavido-viridis vel fusco-viridis, costa venisque supra prominentibus, costa subtus elevata gracili, nervis lateralibus utroque latere c. 15, remotis, gracilibus, angulo lato adscendentibus, arcuatis, prope marginem conjunctis, nervulis inconspicuis laxae reticulatis; inflorescentia terminalis 8 cm. longe pedunculata cymoso-paniculata subfastigiato-ramosa dense multiflora, 4 cm. longa et aequilata, ramis crassis suberectis minutissime puberulis, bracteis cito deciduis (non visis), pedicellis crassis plerumque 1–2 mm. longis minutissime puberulis;

hypanthium obovoideum 1.5 mm. longum minute puberulum, calyce c. 0.6 mm. longo truncato subpatente, integro vel minutissime denticulato; corolla viridi-flava extus minute pulverulacea tubulosa 15-16 mm. longa, tubo basi paullo dilatato, superne sensim dilatato, ore 4-4.5 mm. lato, lobis oblongo-ovatis erectis obtusis 3 mm. longis; stylus 2-3 mm. longe exsertus.—Brazil: Rio Sumidouro, affl. do Arinoia, December, 1914, J. G. Kuhlmann (*Comissão Rondon*) 1424 (Herb. Berol., type).

A relative of *P. iquitoensis* Krause, but in the latter the leaves are smaller and have fewer veins, and the corolla is shorter, with coarser pubescence.

Palicourea Gardneriana (Muell. Arg.), comb. nov. *Psychotria Gardneriana* Muell. Arg. in Mart. Fl. Bras. 6^o: 235. 1881.

Palicourea squarrosa (Muell. Arg.), comb. nov. *Psychotria squarrosa* Muell. Arg. in Mart. Fl. Bras. 6^o: 231. 1881.

Palicourea Weddelliana (Muell. Arg.), comb. nov. *Psychotria Weddelliana* Muell. Arg. in Mart. Fl. Bras. 6^o: 234. 1881.

Palicourea radians (Muell. Arg.), comb. nov. *Psychotria radians* Muell. Arg. in Mart. Fl. Bras. 6^o: 242. 1881.

Palicourea Urbaniana, sp. nov.—Frutex; ramuli vetustiores fusci teretes crassiusculi dense et minutissime puberuli, internodiis 1-5.5 cm. longis; stipulae persistentes basi incrassatae suberectae minute puberulae in vaginam 1 mm. longam truncatam connatae, vagina in lacinias 4 lineari-subulatas 1-1.8 mm. longas rigidas desinente; folia breviter petiolata opposita, petiolo minute puberulo crasso 2-4 mm. longo; lamina firme coriacea oblongo-ovata vel obovata, 3-6 cm. longa, 1.5-2.5 cm. lata, acuta vel breviter acuminata, acumine obtuso vel subacuto, basi acuta vel subobtusata, supra glabra, in sicco flavo-viridis, venis manifestis sed non elevatis, subtus praesertim ad venas minute puberula vel glabrata, costa crassiuscula elevata, nervis lateralibus utroque latere 5-9 angulo angusto adscendentibus, gracilibus, prominentibus, leviter arcuatis, prope marginem arcuato-conjunctis, nervulis prominentibus laxo reticulatis; inflorescentia terminalis 1-1.5 cm. longe pedunculata cymoso-paniculata, dense pauci- vel multiflora, c. 1.5 cm. longa et aequilata, ramis paucis suberectis subfasciculatis minute puberulis, bracteis paucis subulatis 1-2.5 mm. longis, floribus sessilibus vel pedicellis crassis 1-2 mm. longis minute puberulis stipatis; hypanthium late obovoideum 1.5 mm. longum minute puberulum, calyce fere 1 mm. longo subpatente minute multidenticulato; corolla lutea 1 cm. longa extus minute puberula, tubo angusto superne sensim dilatato ore 2.5-3 mm. lato, basi paullo incrassato, lobis 4 erectis late ovatis obtusis fere 2 mm. longis; fructus glabratus 5-6 mm. longus, pyrena abortu 1 dorso breviter obtuseque costata.—Brazil: State of Goyaz, 1894-95, A. Glaziou 21533 (Herb. Berol., type; "Herbarium Ign. Urban").

A species of Mueller's Section *Subcymosae*, noteworthy for its small leathery leaves and very small, much condensed inflorescences.

Palicourea andaluciana, sp. nov.—Ramuli crassiusculi fusci subteretes glabri, internodiis elongatis; stipulae persistentes erectae vaginantes in vaginam 3–4 mm. longam glabram truncatam vel brevissime bilobam connatae; folia petiolata opposita, petiolo gracili 7–20 mm. longo glabro; lamina glabra subcoriacea oblanceolato-oblonga 6–13 cm. longa, 2–4 cm. lata, anguste marginata, abrupte acuminata, acumine angusto attenuato obtuso, basin versus longe sensimque attenuato-angustata, lucida, supra in sicco luteo-viridis vel fusca, costa venisque manifestis sed vix elevatis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 11 angulo fere recto patentibus suboppositis, gracillimis, prominentibus, arcuatis, prope marginem conjunctis, venulis inconspicuis non elevatis arcte reticulatis; inflorescentia terminalis sessilis vel 3–4 cm. longe pedunculata late cymoso-paniculata, plus minusve corymbiformis, 6–11 cm. longa et aequilata vel latior, basi trichotoma, ramis gracilibus late adscendentibus vel suberectis basi bracteatis rectis sparse puberulis vel glabratibus, bracteis inconspicuis subulatis plerumque 2–3 mm. longis, floribus in cymulas parvas densas dispositis sessilibus vel 1–3 mm. longe pedicellatis, pedicellis crassis; hypanthium glabrum turbinato-cylindraceum 0.8 mm. longum, calyce duplo breviora hypanthio latiore subpatente remote et inaequaliter acute dentato; corolla extus dense minuteque puberula in alabastro apice rotundata et nuda, 11–12 mm. longa, tubo crassiusculo basi valde ampliato subcurvo supra sensim dilatato fauce 3 mm. lato, lobis 5 late oblongis obtusis 2 mm. longis intus glabris; antherae breviter exsertae 2.5 mm. longae lineares post dehiscentiam tortae; baccae ellipsoideae 5 mm. longae glabrae basi et apice rotundatae, pyrenis 2 dorso obtuse costatis facie interiore concavis et angustissime longitrorum sulcatis.—Colombia: Between La Resina and Andalucía, Dept. Huila, August 22, 1926, *S. Juzepczuk 6591* (Herb. Field Mus. No. 609,040, type; duplicates in Leningrad Herb.).

Palicourea Raimondii, sp. nov.—Ramuli crassi subteretes ferruginei glabri, internodiis brevibus; stipulae persistentes erectae induratae glabrae fusco-ferrugineae in vaginam truncatam 4–5 mm. longam connatae, vagina in lacinias 4 remotas lineari-subulatas rigidas 1 cm. longas desinente; folia breviter petiolata opposita glabra, petiolo crasso 3–6 mm. tantum longo; lamina crasse coriacea elliptica vel elliptico-ovalis 8.5–14 cm. longa, 4–7 cm. lata, acuta vel abrupte breviterque acuminata, acumine triangulari obtusiusculo, basi obtusa vel rotundata, supra in sicco brunneo-fusca, lucida, costa venisque prominulis, subtus pallidior, brunnescens, costa gracili ut venae valde elevata, nervis lateralibus utroque latere c. 15 obliquis, gracilibus, angulo latiusculo adscendentibus, arcuatis, in marginem desinentibus, venulis prominentibus arcte reticulatis; inflorescentia terminalis 2 cm. longe pedunculata basi foliis 2 multo reductis fulcrata, cymoso-paniculata, pyramidalis, 8 cm. longa et 7 cm. lata,

basi trichotoma, ramis primariis longe nudis supra cymoso-paniculatis, ramulis basi bracteatis crassiusculis sparse ferrugineo-villosulis vel glabratiss, bracteis tenuibus lineari-subulatis inconspicuis 1-2 mm. longis saepe deciduis, floribus sessilibus vel brevissime pedicellatis in cymulas densas paucifloras dispositis; hypanthium glabratum late turbinatum 0.5 mm. longum, calyce hypanthio paullo latiore brevissimo remote obtuso-dentato; sparse villosulo vel glabrato; corolla lutea in alabastro 3.5-4 mm. longa extus sparse minuteque villosula vel puberula apice anguste rotundata, tubo crassiusculo basi paullo ampliato; cetera ignota.—Peru: Dept. Puno, road from Sandía to Valle Grande between Entre Ramos and Yunca-Coya, in 1864, A. Raimondi 11114 (Herb. Berol., type).

Like most of the numerous other Peruvian species of this genus, the present plant has no outstanding characters, but it is noteworthy for its rather large, very lustrous, thick, nearly sessile leaves with their numerous parallel, sharply elevated veins.

Palicourea Jelskii, sp. nov.—Arbor, ramulis crassiusculis minutissime puberulis subteretibus vel subcompressis ochraceis, internodiis 1.5-4 cm. longis; stipulae persistentes suberectae laxae vaginantes glabrae in sicco ferrugineo-fuscae alte connatae c. 1 cm. longae bifidae, laciniis late lanceolato-oblongis acutis; folia petiolata opposita, petiolo gracili 13-23 mm. longo glabro; lamina crasse chartacea anguste oblonga vel oblanceolato-oblonga 11-12 cm. longa, 3-4 cm. lata, abrupte acuta vel breviter et subabrupte acuminata, acumine triangulari obtusiusculo, basin versus longe sensimque angustata, glabra, anguste pallido-marginata, supra in sicco fusco-viridis, lucidula, costa venisque prominentibus, subtus vix pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 15 obliquis, angulo semirecto adscendentibus, gracilibus, prominentibus, arcuatis, in marginem desinentibus, nervulis inconspicuis laxae reticulatis; inflorescentia terminalis sessilis vel 5 mm. longe tantum pedunculata, parva, densa; 2-2.5 cm. longa, e capitulis paucis dense multifloris racemose dispositis composita, ramis lateralibus usque add 7 mm. longis crassis glabris, capitulis c. 7 mm. diam., bracteis numerosis glabris c. 5 mm. longis late ovatis acutis vel obtusis arcuatis adpressis, interioribus paullo brevioribus et angustioribus, bracteis ad basin ramuli insertis late triangulari-ovatis c. 7 mm. longis, floribus arcuatis sessilibus; hypanthium turbinato-cylindraceum 0.8 mm. longum glabrum, calyce 1 mm. longo 5-partito, laciniis late ovatis vel subrotundatis apice obtusis vel rotundatis glabris; corolla in alabastro 3.5 mm. tantum longa extus glabra, apice obtusa et minute 5-tuberculata; cetera ignota.—Peru: Tambillo, August, 1878, C. de Jelski 357 (Herb. Berol., type). Tambillo, Dept. Cajamarca, October 30, 1878, A. Raimondi 4962 (Herb. Berol.).

Since both the specimens are in an immature flowering stage, and the character of the fully developed corolla therefore uncertain, there is some doubt regarding the proper generic position of this plant,

but its foliage and general aspect are those of *Palicourea* rather than *Psychotria*. In *Palicourea* the plant is unusual because of its greatly condensed inflorescence.

***Palicourea villosiflora*, sp. nov.**—Frutex 1.5–2.5 m. altus, ramulis gracilibus teretibus, vetustioribus fusco-ferrugineis, novellis fulvo-pilosis, internodiis 4–5 cm. longis; stipulae persistentes in vaginam truncatam 4 mm. longam sparse pilosam connatae, vagina in lacinias 4 remotas erectas 7–8 mm. longas lanceolato-lineares attenuatas rigidas sparse breviterque pilosas desinente; folia breviter petiolata opposita, petiolo 5–10 mm. longo dense fulvo-piloso; lamina rigide membranacea anguste lancolato-oblonga 11–17 cm. longa, 3.5–5 cm. lata, longe sensimque acuminata, acumine angusto attenuato, basin versus breviter angustata, supra laete viridis, asperula, pilis brevibus lutescentibus subadpressis pilosula, costa venisque vix prominulis, subtus fere concolor, ubique breviter patenti-pilosa, costa gracili elevata, nervis lateralibus utroque latere c. 18 subobliquis, angulo lato adscendentibus, gracilibus, prominentibus, arcuatis, prope marginem conjunctis, venulis paucis prominulis laxe reticulatis; inflorescentia terminalis depresso-cymosa 3 cm. longe pedunculata, e cymis 3 capituliformibus dense multifloris composita, c. 5 cm. lata, basi foliis reductis fulcrata, ramis brevibus crassis dense villosopilosis, bracteis linearibus viridibus plerumque 4–6 mm. longis sparse pilosulis et ciliatis, floribus arcte sessilibus dense congestis; hypanthium subglobosum fere 2 mm. longum dense villosum, calyce roseo c. 1.5 mm. longo villosulo profunde 5-dentato, dentibus triangularibus erectis acutis; corolla purpureo-rosea extus dense villosa 10 cm. longa, tubo basi paullo incrassato superne dilatato fauce 3.5 mm. longo, lobis 5 vix 2 mm. longis erectis ovatis obtusis.—Peru: In dense forest, Schunke Hacienda above San Ramón, Dept. Junín, alt. 1,400–1,700 m., June 8–12, 1929, *E. P. Killip and A. C. Smith 24568* (Herb. Field Mus. No. 607,813, type).

An isolated species, not closely related to any other known from Peru.

***Palicourea bracteosa*, sp. nov.**—Frutex vel arbor parva 3.5–5.5 m. alta, ramulis crassiusculis teretibus vel obtuse tetragonis fuscis vel olivaceis glabris, internodiis elongatis; stipulae erectae persistentes glabrae in vaginam adpressam 3–4 mm. longam truncatam connatae, vagina in lacinias 4 remotas lineari-subulatas 4–5 mm. longas desinente; folia breviter petiolata opposita, petiolo gracili glabro 6–12 mm. longo; lamina crasse membranacea rigidiuscula oblanceolato-oblonga 12–21 cm. longa, 3.5–7.5 cm. lata, abrupte acuminata, acumine anguste triangulari attenuato acuminato, basin versus sensim angustata, supra flavo-viridis, lucida, glabra, costa venisque prominulis, subtus vix pallidior, ad venas costamque minute sparseque pilosula vel fere omnino glabra, costa gracili elevata, nervis lateralibus utroque latere c. 20 angulo fere recto abeuntibus, gracilibus, prominentibus, subcurvis, juxta marginem conjunctis, venulis prominentibus arcte reticulatis; inflorescentia terminalis sessilis vel 3 cm.

longe pedunculata depresso-cymoso-paniculata dense multiflora, 4–11 cm. lata, cymis primo densissimis et fere capituliformibus, pedunculo ut rami dense patenti-pilosulo, ramis plus minusve compressis crassis adscendentibus, bracteis purpureis oblongis vel obovatis foliaceis plerumque 5–10 mm. longis acutis vel obtusiusculis breviter pilosulis et ciliatis persistentibus, floribus sessilibus secus ramos inflorescentiae post anthesin elongatos secundis bracteolis magnis sed bracteis brevioribus persistentibus et drupis longioribus; hypanthium dense pilosulum, calyce pilosulo vix 1 mm. longo 5-dentato, dentibus late triangularibus acutiusculis; corolla alba extus dense pilosula 9 mm. longa, tubo superne sensim dilatato, lobis suberectis triangulari-oblongis c. 2 mm. longis; stylus furfuraceo-puberulus; fructus didymoglobosus c. 4 mm. longus et 4–5 mm. latus, basi et apice rotundatus, dense minuteque patenti-pilosus, pyrenis 2 dorso late rotundatis obscure costulatis.—Peru: In dense forest, Puerto Bermúdez, Dept. Junin, alt. 375 m., July 14–17, 1929, *E. P. Killip and A. C. Smith 26419* (Herb. Field Mus. No. 607,558, type).

In many respects this plant is similar to *P. villosiflora* Standl., the latter differing conspicuously, however, in its densely pilosulous leaves with oblique costae, and in the much narrower bracts of the inflorescence.

***Palicourea lucentifolia*, sp. nov.**—Frutex praeter inflorescentiam glabra, ramulis crassiusculis obtuse angulatis, internodiis elongatis; stipulae persistentes erectae virides in vaginam 2 mm. longam truncatam connatae, vagina in lacinias 4 lineari-attenuatas rigidas 4–5 mm. longas desinente; folia brevissime petiolata opposita, petiolo crasso 5–7 mm. longo; lamina rigide herbacea lucida, lanceolato-oblonga vel anguste oblongo-lanceolata, 10–18 cm. longa, 3.5–5.5 cm. lata, longissime et angustissime attenuata, acumine fere lineari, basin versus longe attenuata, basi ipsa acuta vel acuminata, costa venisque supra prominentibus, costa subtus elevata gracili, nervis lateralibus utroque latere c. 18 prominentibus, angulo angusto vel lato adscendentibus, leviter arcuatis, gracilibus, marginem attingentibus, nervulis prominentibus; inflorescentia terminalis erecta graciliter 11 cm. longe pedunculata corymbiformis, c. 10 cm. longa et aequilata, fastigiato-ramosa, dense multiflora, ramis gracilibus suberectis sparse et minutissime puberulis compressis vel subangulatis, bracteis linearibus vel subulatis saepe infra axillas insertis 4–10 mm. longis, bracteolis conspicuis linearibus vel lineari-oblongeolatis acutis erectis 3–4 mm. longis, ramulis interdum dichotomis, floribus plus minusve secundis sessilibus vel crassiuscule pedicellatis; hypanthium glabrum latissime obovoideum c. 0.7 mm. longum, calyce minuto obsolete denticulato; cetera ignota.—Peru: Edge of forest, La Victoria on the Amazon River, August 29, 1929, *Llewelyn Williams 2906* (Herb. Field Mus. No. 604,457, type).

In the form of the inflorescence this plant resembles closely the Brazilian *P. corymbifera* (Muell. Arg.) Standl., a species with quaternate leaves.

Palicourea pachycalyx, sp. nov.—Arbuscula, ramulis crassiusculis c. 4 mm. crassis subteretibus glabris, internodiis elongatis; stipulae persistentes glabrae in vaginam truncatam 1.5–2 mm. longam connatae, lobis oblongis 6–10 mm. longis obtusis approximatis subadpressis; folia petiolata opposita, petiolo 1.5–3 cm. longo gracili glabro; lamina firme membranacea elliptica vel oblongo-elliptica, 21–33 cm. longa, 8.5–19 cm. lata, breviter acuminata, basi acuta, interdum abrupte contracta et breviter decurrens, utrinque minutissime papillosa, supra laete viridis, glabra, costa venisque prominentibus, subtus vix pallidior, glabra vel ad costam minutissime sparseque puberula, costa gracili elevata, nervis lateralibus utroque latere c. 13 distantibus gracillimis prominentibus, angulo lato adscendentibus, marginem attingentibus, nervulis tenerrimis inconspicuis; inflorescentia terminalis ovoideo-paniculata subdense multiflora 3.5–5.5 cm. longe pedunculata, panicula 4.5–8 cm. longa et aequilata apice anguste rotundata, ramis crassis angulatis puberulis, inferioribus oppositis vel ternatis divaricatis, superioribus adscendentibus, bracteis linearibus vel oblongis plerumque 3–5 mm. longis minute puberulis vel glabratis acutis vel obtusiusculis, paucis, ex axillis remotis, pedicellis crassis 1–3 mm. longis puberulis; hypanthium globosum 3–4 mm. longum et 4–5 mm. latum glabrum basi rotundatum; calyx hypanthio paullo brevior 5-lobatus, lobis late triangularibus obtusissimis erectis; corolla in alabastro subglobosa densissime tomentosa; fructus ovalis c. 9 mm. longus et 7 mm. latus, pyrenis 2 dorso acute grosseque 5-costatis.—Peru: In forest, Caballo Cocha, on the Amazon River, August 5, 1929, *Llewelyn Williams 2078* (Herb. Field Mus. No. 604,529, type).

The type material consists of two sheets of specimens, one of which bears mature fruits and the other immature buds. The species does not resemble closely any other known from this region, but may be recognized by the very large and broad calyx and unusually large fruits.

Palicourea condensata, sp. nov.—Arbor 4.5–6-metralis, ramulis validis 6 mm. crassis compressis glabris; stipulae glabrae erectae in vaginam truncatam 2 mm. longam connatae, lobis oblongis obtusis subadpressis 8 mm. longis; folia breviter petiolata opposita, petiolo crassiusculo 2–3 cm. longo glabro; lamina membranacea oblongo-elliptica 29–34 cm. longa, 14–15 cm. lata, brevissime acuminata, basi acuta vel abrupte contracta et late decurrens, utrinque glabra, supra laete viridis, sublucida, costa venisque prominentibus, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 17 prominentibus distantibus gracillimis, angulo fere recto abeuntibus, prope marginem conjunctis, nervulis tenerrimis inconspicuis; inflorescentia terminalis 8.5 cm. longe pedunculata breviter cymoso-paniculata fastigiato-ramosa densissime multiflora, c. 4.5 cm. longa et 5.5 cm. lata, ramis crassis suberectis dense puberulis, bracteis lanceolatis plerumque 3–5 mm. longis acutis puberulis, pedicellis crassis plerumque 1–2 mm. longis dense puberulis; hypanthium subglobosum

2 mm. longum dense et minutissime puberulum; calyx c. 1.5 mm. longus subpatens brevissime lateque lobatus; corolla intense rosea extus densissime furfuraceo-tomentosa 16 mm. longa, tubo crasso basi paullo incrassato superne sensim dilatato et 4–5 mm. lato, lobis late oblongo-ovatis obtusis suberectis vix 2 mm. longis; fructus globoso-ovalis minutissime puberulus 6–7 mm. longus, pyrenis 2 dorso obtuse 5-costatis.—Peru: In woods, Yurimaguas, lower Río Huallaga, alt. 135 m., August 22–September 9, 1929, *E. P. Killip and A. C. Smith 28048* (Herb. Field Mus. No. 607,677, type). Apparently conspecific is the following collection: Brazil: Manaus, in dense forest, October 17, 1929, *Killip & Smith 30138*; a tree of 4.5–6 m.; pedicels purplish, the branches of the inflorescence bright red; corolla purplish red.

A relative of *P. iquitoensis* Krause, but in that the leaves are smaller and proportionately narrower, the stipules are much longer, and the smaller corolla is merely minutely puberulent or nearly or quite glabrous.

Palicourea iquitoensis Krause, Bot. Jahrb. Engler 40: 401. 1908, nomen; Verh. Bot. Ver. Brandenb. 50: 114. 1908.

The following specimens of this species are in the herbarium of Field Museum: Peru: Iquitos, July, 1902, *Ule 6237* (photo. and fragment of the type, from Herb. Berol.). Near Iquitos, July, 1929, *Williams 1384, 1451, 1515*. Mishuyacu, near Iquitos, in dense forest, *Killip & Smith 29865*; a tree of 3.5–4.5 m.; branches of the inflorescence orange; corolla yellow, the lobes margined with purple. Iquitos, in woods, *Killip & Smith 26932*; a shrub or slender tree 3–6 m. high; branches of the inflorescence bright orange; corolla yellow, the lobes bordered with purple.

Palicourea lucidula, sp. nov.—Frutex, ramulis crassiusculis subteretibus vel subcompressis glabris, internodiis 3.5–8 cm. longis; stipulae glabrae erectae virides in vaginam truncatam 1.5–2.5 mm. longam connatae, laciniis remotis lineari-subulatis 4–5 mm. longis attenuatis; folia brevissime petiolata opposita, petiolo crasso 8–15 mm. longo glabro; lamina membranacea elliptico-oblonga 29–32 cm. longa, c. 11 cm. lata, acuminata, basi acuta, utrinque glabra, supra laete viridis, lucida, costa venisque prominulis, subtus opaca, vix pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 20 gracilibus prominentibus, angulo lato adscendentibus, arcuatis, marginem attingentibus, nervulis prominentibus laxe reticulatis; inflorescentia terminalis cymoso-paniculata fastigiato-ramosa densissime multiflora, 8–11 cm. longe pedunculata, basi trichotoma, c. 6 cm. longa et 5 cm. lata, ramis erectis acute angulatis crassis sparse minuteque puberulis vel fere glabris, bracteis bracteolisque foliaceis conspicuis lanceolatis vel anguste spathulatis plerumque 5–10 mm. longis acuminatis persistentibus fructu multo longioribus, minute ciliolatis,

floribus plus minusve secundis sessilibus vel 1–2 mm. longe pedicellatis; fructus globosus vel didymo-globosus 4 mm. longus et 4–5.5 mm. latus glaber, carpellis 2 dorso fere laevibus.—Peru: In dense forest, Santa Rosa, lower Río Huallaga below Yurimaguas, Dept. Loreto, alt. 135 m., September 1–5, 1929, *E. P. Killip and A. C. Smith 28816* (Herb. Field Mus. No. 607,736, type). In dense forest between Yurimaguas and Balsapuerto, 135–150 m., August 26–31, 1929, *Killip & Smith 28089*; branches, bracts, and inflorescence reddish brown to purple.

The plant is noteworthy for its large, lustrous, thin leaves and for the numerous large, narrow bracts of the inflorescence.

Palicourea charianthema, sp. nov.—Frutex 2–3.5 m. altus, ramulis gracillimis teretibus viridibus minutissime sparseque puberulis, internodiis valde elongatis; stipulae persistentes virides erectae in vaginam truncatam vix 1 mm. longam connatae, vagina in lacinias 4 lineares rigidas 1–1.5 mm. longas acutiusculas desinente; folia breviter petiolata opposita, petiolo gracili 4–8 mm. longo glabro; lamina membranacea in sicco laete viridis vel olivacea oblongo-lanceolata, 8–15 cm. longa, 3–5 cm. lata, longissime angustaeque acuminata, basi acuta vel abrupte acuta, supra glabra, costa venisque vix prominulis, subtus concolor, ad costam sparse minuteque pilosula vel glabra, costa gracili elevata, nervis lateralibus utroque latere c. 12 gracillimis, angulo lato adscendentibus, remotis, prominentibus, subarcuatis, prope marginem arcuato-conjunctis; inflorescentia terminalis c. 8 cm. longe pedunculata ut videtur recurva et pendula, angustissime et longissime thyrsideo-paniculata, racemiformis, laxe remoteque pauciflora, 10–22 cm. longa et vix 2 cm. lata, floribus in cymas 1–4-floras dispositis, cymis simpliciter racemosis distantibus, rhachi gracillima puberula, bracteis inconspicuis filiformi-subulatis vel filiformi-lanceolatis plerumque 1–2 mm. longis, pedicellis gracilibus 2–3 mm. longis pilosulis; hypanthium oblongo-clavatum 2–2.5 mm. longum minute pilosulum; calyx 4-lobus, laciniis 0.5–1 mm. longis triangularibus vel lanceolatis suberectis acutis vel acuminatis; corolla tubulosa 15 mm. longa sparse breviterque pilosula, tubo crassiusculo basi paullo incrassato interdum leviter curvo ore 3.5 mm. lato, lobis triangularibus suberectis 1.8 mm. longis acutis.—Peru: Wooded banks of the Río Itaya above Iquitos, Dept. Loreto, alt. 110 m., September 17–22, 1929, *E. P. Killip and A. C. Smith 29395* (Herb. Field Mus. No. 607,580, type); corolla and branches of the inflorescence light red. Peña Blanca, on Río Itaya, Dept. Loreto, in dense forest, 110 m., September 19, 1929, *Killip & Smith 29658*; branches of inflorescence, calyx, and corolla bright orange-red.

Evidently a relative of the Brazilian *P. tabacifolia* C. & S. The Peruvian plant, however, is distinguished by its long and extremely narrow, raceme-like inflorescence.

Rudgea hispidula, sp. nov.—Frutex metralis ut videtur dense ramosus, ramulis gracilibus teretibus olivaceis, novellis dense hispi-

dulis, internodiis plerumque elongatis; stipulae 1.5–4 mm. longae persistentes dense hispidulae alte connatae rotundatae mucronatae, dorso primo aculeolis paucis brevibus incrassatis pallidis auctae, aculeolis mox deciduis; folia brevissime petiolata interdum subsessilia opposita, petiolo usque ad 5 mm. longo hispidulo; lamina firme membranacea oblongo-elliptica usque ad late elliptica 6–10.5 cm. longa, 2–5.5 cm. lata, acuminata, acumine subobtusum, basin versus brevissime angustata et saepe anguste subcordata vel emarginata, supra viridis, glabra, costa venisque non elevatis, subtus paullo pallidior, praesertim ad venas minute puberula, costa gracili elevata, nervis lateralibus utroque latere c. 6 angulo semirecto abeuntibus, inaequalibus, gracilibus, prominentibus, fere rectis et versus marginem abrupte arcuatis, prope marginem conjunctis, nervulis vix prominulis laxe reticulatis; inflorescentia parva terminalis 6 mm. longe pedunculata, e cymulis 3 pedunculatis radiatim dispositis composita, pedunculo recto villosopiloso, ramis 3–4 mm. longis basi breviter bracteatis sparse pilosis, cymulis paucifloris congestis c. 5 mm. latis, floribus arcte sessilibus; hypanthium late turbinatum 0.7 mm. longum glabrum, calyce vix 0.5 mm. longo subtruncato; corolla alba in alabastro 2 mm. tantum longa sparse puberula apice rotundata nuda; cetera ignota.—Peru: In dense forest, Santa Rosa, lower Río Huallaga below Yurimaguas, Dept. Loreto, alt. 135 m., September 1–5, 1929, *E. P. Killip and A. C. Smith 28931* (Herb. Field Mus. No. 607,739, type).

Rudgea retifolia, sp. nov.—Frutex vel arbuscula 3–4.5 m. alta omnino glabra, ramulis gracilibus teretibus viridibus vel olivaceis, internodiis elongatis; stipulae quadratae vel late triangulares 1–1.5 mm. longae, apice aristis paucis crasse subulatis pallidis 1.5–2 mm. longis onustae; folia brevissime petiolata opposita, petiolo crasso supra late sulcato 1–3 mm. longo; lamina subcoriacea anguste oblongo-lanceolata, 5.5–10 cm. longa, 1.8–3.7 cm. lata, longe sensimque acuminata, apice ipso late obtuso, basi anguste obtusa et vulgo inaequalis, supra viridis, interdum lucida, costa venisque conspicuis et interdum prominentibus, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 9, plus minusve obliquis, angulo angusto adscendentibus, gracillimis et inconspicuis, prominulis, remote a margine conjunctis, in axillis costarum primariarum conspicue domatiata, nervulis prominulis arctissime reticulatis; inflorescentiae terminales et axillares capitatae dense pauciflorae, pedunculis simplicibus vel interdum ramosis 1–2 cm. longis rigidis interdum supra basin bracteatis, floribus arcte sessilibus; hypanthium late obovoid-eum c. 0.5 mm. longum, calyce aequilongo breviter 5-denticulato, dentibus latissime triangularibus obtusis; fructus subglobosus 5–6 mm. longus apice late rotundatus interdum abortu monospermus.—Peru: In forest, Timbuchi, on the upper Río Nanay, Dept. Loreto, June 26, 1929, *Llewelyn Williams 994* (Herb. Field Mus. No. 604,690, type); vernacular name, “amanga.” Iquitos, in woods, alt. 100 m., *Killip & Smith 27195*.

In its foliage *R. retifolia* somewhat resembles the widespread *R. fimbriata* (Benth.) Standl., but in the latter the leaves are broader and the inflorescence is paniculate.

***Rudgea sessiliflora*, sp. nov.**—Frutex ramosus 0.3–1.5 m. altus ut videtur omnino glaber, ramulis gracilibus subteretibus viridibus, internodiis brevibus vel elongatis interdum brevissimis, novellis vulgo raphidibus brevibus pallidis notatis; stipulae deciduae latae 1–2.5 mm. longae apice aristis paucis subulatis crassiusculis pallidis 1–1.5 mm. longis onustae; folia breviter petiolata opposita, petiolo gracili 3–6 mm. longo saepe usque ad basin anguste marginato; lamina membranacea oblongo-lanceolata vel anguste elliptico-lanceolata, 4.5–8.5 cm. longa, 1.5–3 cm. lata, longe angustaque acuminata, acumine obtusiusculo, basin versus longe sensimque vel interdum abrupte angustata, supra in sicco pallide viridis, costa venisque vix prominentibus, subtus fere concolor, costa gracillima prominente, nervis lateralibus utroque latere c. 7, obliquis, gracillimis, prominulis, remote a margine laxae conjunctis, nervulis inconspicuis laxae reticulatis; inflorescentiae plerumque terminales capitatae dense pauciflorae corollis exclusis c. 6 mm. latis, floribus arcte sessilibus; hypanthium late obovoideum c. 0.6 mm. longum, calyce viridi cupulari c. 1 mm. longo et 2 mm. lato, obsoleto et brevissime 5-denticulato, disco crasso tumido; fructus subglobosus albus c. 1 cm. longus apice calyce persistente coronatus.—Peru: In dense forest, Soledad, on Río Itaya, Dept. Loreto, alt. 110 m., September 20–22, 1929, *E. P. Killip and A.C. Smith 29698* (Herb. Field Mus. No. 607,454, type), 29575 (U. S. Nat. Herb.). San Antonio, on Río Itaya, in dense forest, 110 m., *Killip & Smith 29524* (U. S. Nat. Herb.). Puerto Bermúdez, Dept. Junín, in dense forest, 375 m., July, 1929, *Killip & Smith 26666* (U. S. Nat. Herb.).

Similar to *R. retifolia* Standl., but in that the flower heads are long-stalked.

***Rudgea Woronovii* Standl.** Field Mus. Bot. 7: 155. 1930.

The type was collected in the Territory of Caquetá, Colombia, but the species occurs also in Peru, as indicated by recent collections: Peru: Along the Río Nanay, Dept. Loreto, June 28, 1929, *Llewellyn Williams 1077, 1081*; growing in forest.

***Rudgea psychotriaefolia*, sp. nov.**—Frutex 2.5–3 m. altus, ramulis crassiusculis subteretibus fusco-viridibus glabris, internodiis modice elongatis; stipulae subpersistentes erectae rigidae late ovatae 8–11 mm. longae glabrae multinerviae profunde pectinato-laciniatae; folia breviter petiolata opposita, petiolo crassiusculo 6–10 mm. longo glabro; lamina papyracea obovata vel oblongo-obovata 9–15 cm. longa, 4–7 cm. lata, abrupte acuminata, acumine angusto attenuato obtuso, basin versus cuneatim angustata, basi ipsa acuta, supra fusco-viridis, glabra, costa angustissime sulcata, venis non elevatis,

subtus paullo pallidior, praesertim ad venas minutissime pulverulacea vel glabra, costa valida elevata, nervis lateralibus utroque latere c. 10 gracilibus, prominentibus, obliquis, angulo lato adscendentibus, arcuatis, infimis angulo fere recto abeuntibus, omnibus juxta marginem conjunctis, nervulis vix prominulis laxe reticulatis; inflorescentia terminalis cymoso-paniculata 1 cm. longe pedunculata, c. 2 cm. longa et aequilata, densissime multiflora, basi digitato-ramosa, ramis crassis 5–6 mm. longis glabris, floribus sessilibus vel subsessilibus dense congestis, bracteis minutis late triangularibus acutis glabris; hypanthium late cylindraceo-turbinatum 1.2 mm. longum glabrum, calyce brevissimo c. 0.5 mm. longo remote denticulato; corolla pallide lutea in alabastro obtusa, supra sparse et minute puberula, tubo crassiusculo 8 mm. longo superne paullo sensimque dilatato, lobis 4 patentibus oblongis obtusis 4 mm. longis; stylus breviter exsertus.—Peru: In dense forest, Yurimaguas, lower Río Huallaga, Dept. Loreto, alt. 135 m., August 23–September 7, 1929, *E. P. Killip and A. C. Smith 29016* (Herb. Field Mus. No. 607,744, type).

Similar to *R. Woronovii* Standl., which has large leaves with numerous veins, and a large and lax inflorescence.

***Rudgea justicioides*, sp. nov.**—Frutex 1.5–2 m. altus ramosus, ramis gracilibus teretibus viridibus vel olivaceis glabris, novellis rigidis interdum compressis, internodiis brevibus vel elongatis; stipulae brevissime connatae 3.5–5 mm. longae persistentes erectae virides bifidae, basi aristis paucis pallidis subulatis brevibus auctae, laciniis lineari-subulatis rigidis angustissimis; folia brevissime petiolata opposita, petiolo crassiusculo 1–3 mm. longo supra leviter sulcato glabro; lamina firme membranacea elliptica vel oblongo-elliptica, rarius lanceolato-oblonga, 6.5–12.5 cm. longa, 2.5–5.5 cm. lata, breviter vel longius et abrupte acuminata, acumine angusto attenuato-acuto, basi acuta vel interdum basin versus longius acuminata, basi ipsa interdum obtusiuscula, supra laete viridis, glabra, costa prominente, venis saepe manifestis sed non elevatis, subtus paullo pallidior, ad costam sparse et minutissime puberula vel omnino glabra, costa gracili elevata, nervis lateralibus utroque latere c. 8 prominentibus, gracillimis, obliquis, arcuatis, marginem attingentibus, nervulis prominulis laxe reticulatis; inflorescentiae terminales capitatae dense pauciflorae crasse 3–4 mm. longe pedunculatae, bracteis numerosis intense purpureis arcte involucretae, bracteis exterioribus oblongis vel oblongo-ovatis 1.5–2 cm. longis acutis vel acuminatis erectis sparse minuteque puberulis vel fere glabris multinerviis et conspicue reticulato-venosis, floribus arcte sessilibus, bracteis interioribus lineari-lanceolatis paullo brevioribus; hypanthium minutum glabrum, calyce glabro 3.5–4 mm. longo tubuloso 1.5 mm. lato apice minute denticulato; corolla alba extus glabra, tubo cylindraceo 10 mm. longo et fere 2 mm. crasso, lobis oblongis acutiusculis c. 5 mm. longis patentibus; fructus intense caeruleus ovalis 7–9 mm. longus calyce persistente coronatus 2-locularis.—Peru: Río Masana, Dept. Loreto,

May 8, 1929, *Llewelyn Williams* 163 (Herb. Field Mus. No. 601,966, type). San Antonio, on Río Itaya, Dept. Loreto, 110 m., in dense forest, September 18, 1929, *Killip & Smith* 29331, 29354.

In its conspicuous involucre of large colored bracts this species is quite unlike any other of which I have seen material.

***Rudgea loretensis*, sp. nov.**—Frutex 1–3-metralis, ramulis crassiusculis subteretibus, novellis viridibus glabris, internodiis plerumque abbreviatis; stipulae persistentes suberectae late ovatae vel subrotundatae fere liberae 6–10 mm. longae pallidae obtusae et apiculatae dorso prope apicem aculeolis paucis brevibus onustae; folia breviter petiolata opposita, petiolo crasso 4–6 mm. longo glabro; lamina crasse membranacea late elliptica, elliptico-oblonga, lanceolato-ovata vel lanceolato-oblonga, 11–20 cm. longa, 4–11.5 cm. lata, longe angustaque acuminata, saepe longissime attenuato-acuminata, basi acuta, glabra, supra in sicco pallide viridis vel fusca, costa venisque non elevatis, subtus fere concolor, costa gracili elevata, in axillis domatata, nervis lateralibus utroque latere c. 9 valde obliquis, gracilibus, prominentibus, leviter arcuatis, juxta marginem conjunctis; inflorescentia terminalis cymoso-paniculata laxa pauciflora basi trichotoma, e cymulis 3–9 trifloris composita, 3–4.5 cm. longa et aequilata, 1.5–2.5 cm. longe pedunculata, ramis crassis subcompressis suberectis glabris, bracteis minutis late triangularibus acutis, floribus sessilibus; hypanthium late turbinatum 2.5–3 mm. longum minutissime pulverulentum, calyce aequilongo late campanulato brevissime et latissime lobulato, lobis apiculatis; corolla in alabastro late obtusa alba extus minutissime pulverulenta vel glabrata, tubo crassiusculo 12 mm. longo c. 2.2 mm. lato supra vix dilatato, lobis 5 anguste oblongis obtusis c. 7 mm. longis recurvis.—Peru: In forest, Caballo Cocha, on the Amazon River, Dept. Loreto, August 11, 1929, *Llewelyn Williams* 2484 (Herb. Field Mus. No. 604,470, type); also Nos. 2233 and 2505, from the same locality. In forest, La Victoria, on the Amazon, Dept. Loreto, August, 1929, *Williams* 2877, 2618, 2841. Dense forest, Balsapuerto, Lower Río Huallaga basin, Dept. Loreto, 150–350 m., *Killip & Smith* 28567. Iquitos, Dept. Loreto, in woods, 100 m., August, 1929, *Killip & Smith* 27450.

***Rudgea cephalantha*, sp. nov.**—Frutex 1–3-metralis vel arbuscula, ramulis teretibus vel saepe subcompressis gracilibus glabris flavo-viridibus vel olivaceis, internodiis plerumque elongatis; stipulae virides suberectae persistentes late ovatae vel subrotundatae 4–5 mm. longae cuspidatae glabrae, dorso aculeolis numerosis crassiusculis brevibus vel elongatis subulatis pallidis onustae; folia breviter vel brevissime petiolata opposita, petiolo crassiusculo glabro 2–4 (rare usque ad 10) mm. longo; lamina crasse membranacea ovato-oblonga, oblongo-lanceolata vel rarius anguste elliptico-oblonga, 6.5–19 cm. longa, 2–6.5 cm. lata, longe acuminata, acumine attenuato interdum subfalcato, basi acuta vel acuminata, saepe paullo supra basin subcontracta, supra viridis, glabra, costa venisque inter-

dum prominentibus, subtus paullo pallidior, glabra, in axillis domatata, costa gracili elevata, nervis lateralibus utroque latere c. 10 obliquis, gracillimis, prominulis, angulo lato adscendentibus, prope marginem conjunctis, nervulis inconspicuis vix prominulis laxè reticulatis; inflorescentiae capitatae dense multiflorae subglobosae c. 1 cm. diam. terminales 1–3 cm. longe pedunculatae, pedunculo rigido recto glabro vel rarius sparse minuteque puberulo, bracteis brevibus lanceolatis vel ovatis acutis vel obtusis plerumque hypanthio brevioribus, floribus sessilibus; hypanthium late turbinato-obovoideum 1.2 mm. longum glabrum, calyce c. 0.8 mm. longo late campanulato viridi subtruncato vel remote et irregulariter dentato; corolla extus glabra vel apice obscure puberula in alabastro obtusa, tubo crasso 3 mm. longo, lobis 5 patentibus oblongis versus apice paullo angustatis obtusis, fauce dense albo-barbata; antherae semiexsertae; fructus globosus vel didymo-globosus albus c. 5 mm. longus et 6 mm. latus. —Peru: In forest, Caballo Cocha on the Amazon River, Dept. Loreto, August 1, 1929, *Llewelyn Williams 2228* (Herb. Field Mus. No. 604,540, type). In forest, Río Nanay, Dept. Loreto, June 15, 1929, *Williams 766*; vernacular name "sanango del bajo." Halfway up the Río Nanay, June 14, 1929, *Williams 729*. Mishuyacu, near Iquitos, Dept. Loreto, 100 m., in forest, in 1929, *G. Klug 278, 306*. Yurimaguas, lower Río Huallaga, Dept. Loreto, 135 m., in dense forest, in 1929, *Killip & Smith 28023*. Peña Blanca, on Río Itaya, Dept. Loreto, 110 m., in dense forest, September, 1929, *Killip & Smith 29646*.

Rudgea Dahlgrenii, sp. nov.—Omnino glabra; rami subteretes ochracei vel albidii, ramulis rigidis rectis flavo-viridibus, internodiis 4–8 cm. longis; stipulae erectae persistentes 1.5–4 mm. longae dorso ubique aculeolis pallidis subulatis brevibus dense onustae; folia brevissime petiolata opposita, petiolo 1–2 mm. longo; lamina coriacea late elliptica, elliptico-oblonga vel elliptico-ovata 3.5–8.5 cm. longa, 2–5 cm. lata, acuta, basi obtusa vel anguste rotundata et brevissime subcordata, supra flavo-viridis, costa venisque prominentibus, subtus fere concolor, costa crassa elevata, nervis lateralibus utroque latere c. 9 prominentibus, gracilibus, subobliquis, angulo lato adscendentibus, leviter arcuatis, prope marginem conjunctis, nervulis prominulis arcte et eleganter reticulatis, margine plano; inflorescentia terminalis cymoso-paniculata corymbiformis laxè pauci- vel multiflora, 2.5–3.5 cm. longa et 2.5–5 cm. lata, 1–1.8 cm. longe pedunculata, basi trichotoma, ramis valde adscendentibus rigidis di- vel trichotomis, cymulis trifloris, floribus sessilibus, bracteis minutis late triangularibus acutis; hypanthium late turbinatum 1 mm. longum, calyce late campanulato viridi 1.2 mm. longo truncato vel obsolete repando-denticulato; corolla in alabastro 4–5 mm. longa extus minutissime pulverulenta apice rotundata, lobis tubo multo longioribus; fructus ovalis vel subglobosus 5–6 mm. longus 1–2-spermus, pyrenis dorso obtuse tricostatis.—Brazil: Boa Vista, on the Tapajoz River, State of Pará, May–June, 1929, *B. E. Dahlgren and E. Sella 95* (Herb. Field Mus. No. 600,768, type).

A well-marked species, noteworthy for its sessile rigid leaves, and for the compact, corymbosely branched inflorescence.

Rudgea macroceras, sp. nov.—Praeter flores omnino glabra, ramulis gracillimis subteretibus pallide viridibus, internodiis plerumque 1.5–2.5 cm. longis; stipulae persistentes erectae viridescentes in vaginam 1.5 mm. longam truncatam adpressam connatae, vagina in lacinias 4 subulatas erectas 1.5–2 mm. longas desinente; folia breviter petiolata opposita, petiolo crassiusculo 2–3 mm. longo; lamina firme membranacea lanceolato-oblonga vel anguste elliptico-oblonga 3.5–5 cm. longa, 1–1.4 cm. lata, longe sensimque acuminata, acumine angusto longe attenuato apice acutissimo, basin versus breviter angustata, supra viridis, costa elevata, venis non elevatis, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 9 subobliquis, angulo lato adscendentibus, inaequalibus, pallidis, prominulis, gracilibus, juxta marginem conjunctis, nervulis pallidis prominulis laxè reticulatis; flores terminales solitarii intra stipulas sessiles; hypanthium 1 mm. longum glabrum, calyce campanulato 1.7 mm. longo glabro fere ad medium multifido, laciniis subulatis attenuatis; corolla extus subsparsè furfuraceo-puberula, tubo crassiusculo 7–8 mm. longo superne vix dilatato fauce 2.5 mm. lato, lobis 4 mm. longis adscendentibus apice appendice cornuto curvo 2–2.5 mm. longo auctis; stylus subexsertus.—Brazil: Alto da Serra, State of São Paulo, February 20, 1919, *F. C. Hoehne 4502* (Herb. Berol., type).

The generic position of this plant is somewhat uncertain, since the stipules are not of the type usually found in the genus *Rudgea*. The form of the corolla, however, indicates that its reference to this group is probably justified, and the general appearance of the plant is similar to that of various other species of *Rudgea*.

Rudgea Catharinae, sp. nov.—Frutex, ramulis gracilibus subteretibus, vetustioribus ochraceis, novellis olivaceis interdum subcompressis minutissime puberulis, internodiis elongatis; stipulae persistentes et plus minusve induratae in vaginam 1.5–2 mm. longam connatae, apice setis numerosis 1.5–2 mm. longis subulatis pallidis cito deciduis dense onustae; folia breviter petiolata opposita, petiolo crassiusculo 3–6 mm. longo minute puberulo vel glabrato; lamina crasse membranacea elliptico-oblonga usque ad elliptica 7.5–12 cm. longa, 3–5.5 cm. lata, abrupte acuminata vel caudato-acuminata, acumine angusto attenuato obtuso, basi acuta vel basin versus breviter vel longius angustata, supra fusco-viridis, glabra, costa venisque non elevatis, subtus pallidior, in axillis venarum conspicue excavata, costa gracili elevata, nervis lateralibus utroque latere c. 10 obliquis, angulo semirecto vel latiore abeuntibus, gracilibus, prominentibus, valde arcuatis, juxta marginem conjunctis, nervulis prominulis laxè reticulatis; inflorescentia terminalis 5–10 mm. longe pedunculata e cymulis paucis parvis dense multifloris racemose dispositis composita, interdum umbelliformis, 1.5–2.5 cm. longa et 1.5–2 cm.

lata, ramis crassis minutissime puberulis basi bracteatis, bracteis rotundato-ovatis acutis vel acuminatis 1–1.5 mm. longis, floribus arcte sessilibus; hypanthium ut calyx minutissime puberulum vel fere glabrum late obovoideum 0.8 mm. longum, calyce late campanulato c. 0.6 mm. longo remote acuteque denticulato; corolla 4 mm. longa extus minutissime puberula vel fere glabra in alabastro apice rotundata, tubo brevi latoque in fauce dense albo-barbato, lobis 5 patentibus vel subrecurvis triangulari-oblongis tubo aequilongis obtusis; antherae subexsertae.—Brazil: In forest behind the Catholic church, Blumenau, Prov. Santa Catharina, October, 1888, *E. Ule* 1041 (U. S. Nat. Herb., type; duplicate in Herb. Berol.).

Rudgea malpighiacea, sp. nov.—Praeter inflorescentiam omnino glabra, ut videtur dense ramosa, ramulis gracilibus teretibus olivaceis striatis, internodiis valde abbreviatis; stipulae persistentes in vaginam truncatam 1.5–2 mm. longam laxam connatae, vagina primo apice aristis paucis brevibus subulatis cito deciduis onusta; folia breviter petiolata opposita, petiolo gracili 2–3 mm. longo; lamina firme membranacea obovata vel oblongo-obovata 3–4.5 cm. longa, 1–2 cm. lata, acutiuscula vel obtusa, interdum rotundata et breviter protracta, basin versus cuneato-angustata, supra viridis, costa prominula, venis obscuris, subtus paullo pallidior, costa gracillima elevata, nervis lateralibus utroque latere c. 8 angulo latiusculo abeuntibus, prominulis, gracilibus, fere rectis sed versus marginem abrupte arcuatis, prope marginem conjunctis, nervulis vix prominulis laxe reticulatis; inflorescentia terminalis parva c. 4 mm. longe pedunculata, e cymulis 3 brevissime pedunculatis dense paucifloris et fere capitato-congestis composita, vix 1 cm. longa, bracteis viridibus ovatis 0.7 mm. longis, floribus sessilibus vel 0.5 mm. longe pedicellatis; hypanthium obovoideum minutissime pulverulaceum 0.7 mm. longum, calyce subtruncato hypanthio brevior; corolla extus glabra vel microscopice pulverulacea in alabastro apice rotundata et nuda 4 mm. longa oblongo-obovoidea, lobis brevissimis late ovatis; cetera ignota.—Brazil: Forests of the Rio Grongogy Basin, State of Bahia, alt. 100–500 m., in 1915, *H. M. Curran* 226 (U. S. Nat. Herb., type).

Noteworthy for the small, blunt leaves and the much-reduced inflorescence.

Rudgea eugenioides, sp. nov.—Frutex ut videtur dense ramosus, ramulis gracilibus subteretibus, vetustioribus ochraceis, novellis viridescentibus minutissime puberulis vel glabris, internodiis brevibus; stipulae persistentes c. 1 mm. longae glabrae in vaginam truncatam connatae, basi primo setulis paucis pectinatim dispositis subulatis brevibus deciduis dense onustae; folia breviter petiolata opposita, petiolo gracili 3–6 mm. longo glabro; lamina subcoriacea elliptica, elliptico-oblonga vel lanceolato-oblonga, 3–5 cm. longa, 1–2.2 cm. lata, abrupte acuminata vel longiacuminata, acumine angusto longe attenuato apice obtuso, basi acuta vel basin versus breviter angustata, supra viridis, glabra, costa venisque planis, subtus multo pallidior, in axillis excavata et barbata, aliter glabra, costa gracili

elevata, nervis lateralibus utroque latere c. 9 obliquis, angulo semirecto vel latiore abeuntibus, crassiusculis, prominulis, pallidis, prope marginem conjunctis, venulis inconspicuis laxe reticulatis; inflorescentia terminalis parva graciliter 1.5–2.5 cm. longe pedunculata, capituliformis vel cymuloso-umbellata, capitulis c. 7 mm. latis dense paucifloris apice pedunculi sessilibus vel usque ad 1 cm. longe pedunculatis, pedunculo gracili minute puberulo vel fere glabro, ramis basi minute bracteatis, floribus congestis arcte sessilibus; hypanthium ut calyx minute puberulum late turbinatum 1 mm. longum, calyce late campanulato 1.4 mm. longo fere ad medium 5-lobato, lobis late ovatis vel rotundatis apice obtusis vel subrotundatis; corolla extus minute puberula in alabastro apice rotundata et nuda 6 mm. longa, tubo supra sensim dilatato, lobis suberectis oblongis obtusis tubo fere aequilongis.—Brazil: Without definite locality, 1890–91, *A. Glaziou 18298* (Herb. Berol., type, consisting of three sheets of specimens). Alto Marahé, Prov. Rio de Janeiro, 1888–89, *Glaziou 17635* (Herb. Berol.).

The species is noteworthy for its small leaves and for its reduced inflorescence.

Rudgea organensis, sp. nov.—Ramuli crassi (6–10 mm.) ochracei vel fusci saepe lucidi glabri, internodiis brevibus; stipulae persistentes erectae valde incrassatae rotundatae apice cuspidatae glabrae, supra in juventute prope marginem aristis paucis brevibus subulatis onustae; folia petiolata opposita, petiolo 1–2.5 cm. longo crasso glabro supra leviter sulcato; lamina subcoriacea elliptico-obovata 13–25 cm. longa, 7–11 cm. lata, abrupte breviterque cuspidato-acuminata, acumine angusto attenuato, basin versus breviter angustata, basi ipsa acuta vel acuminata, glabra, costa venisque supra vix elevatis, costa subtus elevata crassiuscula, nervis lateralibus utroque latere c. 13 subobliquis, gracilibus, angulo lato adscendentibus, leviter arcuatis, prope marginem conjunctis, nervulis prominulis arcte reticulatis; inflorescentia terminalis cymoso-paniculata, 7–8 cm. longa et aequilata, dense multiflora, 3–4.5 cm. longe pedunculata, basi trichotoma, ramis crassis adscendentibus subcompressis sparse puberulis vel fere glabris, bracteis brevissimis late ovatis acutis inconspicuis, cymulis ultimis plerumque trifloris, floribus arcte sessilibus; hypanthium late obovoideum 3 mm. longum dense puberulum, calyce aequilongo late campanulato dense puberulo profunde et inaequaliter 5-lobo, lobis triangularibus acutis vel acuminatis sinibus latis rotundatis sejunctis; corolla alba in alabastro obtusa extus furfuraceo-puberula in alabastro 2–2.4 mm. longa (aperta non visa), tubo superne dilatato fauce 4–6 mm. lato, lobis c. 6 mm. longis oblongis obtusis.—Brazil: Serra dos Orgaos, Retiro, at 1,300 m., November, 1915, *von Lützelburg 6487* (Herb. Berol., type). Serra dos Orgaos, Morro Assu, 2,000 m., November, 1916, *von Lützelburg 6946* (Herb. Berol.).

Rudgea inurbana, sp. nov.—Frutex 0.5–1.5 m. altus, ramulis gracilibus fusco-olivaceis striatis, densissime pilis patentibus sordidopilosis, internodiis brevibus vel elongatis; stipulae erectae persistentes

7 mm. longae profunde bifidae dense pilosae, segmentis late semiovatis profunde multilaciniatis; folia breviter petiolata opposita, petiolo crassiusculo 3-4 mm. longo dense breviterque piloso; lamina crasse membranacea elliptico-oblonga, elliptica vel ovato-elliptica 5-9 cm. longa, 2-4 cm. lata, interdum spurie et leviter depresso-crenata, acuta, basi acuta vel basin versus breviter angustata, supra in sicco olivacea, ad costam venasque puberula vel pilosa, aliter glabra, costa venisque profunde impressis, subtus fere concolor, ubique dense pilis patentibus sordidis vel fulvescentibus pilosa, costa crassiuscula elevata, nervis lateralibus utroque latere c. 13 obliquis, gracilibus, prominulis, angulo semirecto abeuntibus, subarcuatis, prope marginem conjunctis, nervulis prominulis arcte reticulatis; inflorescentia terminalis capituliformis 2.5-4 cm. longe pedunculata dense multiflora usque ad 1 cm. lata, pedunculo gracili dense piloso, capitulo bracteis foliaceis 4-5 mm. longis late ovatis vel ovato-oblongis obtusis vel acutis dense pilosis arcte fulcrata; hypanthium late turbinatum glabratum fere 1 cm. longum, calyce aequilongo pilosulo profunde 5-fido, laciniis triangularibus acutis ciliatis erectis; corolla extus hispidulo-pilosula, tubo crassiusculo 2.5 mm. longo supra non dilatato, lobis patentibus tubo parum brevioribus triangulari-oblongis acutiusculis intus glabris; antherae semiexsertae; stylus 1.7 mm. longe exsertus.—Brazil: Banks of the Río Negro, Manaos, State of Amazonas, December 24, 1901, E. Ule 5976 (Herb. Berol., type).

The species is noteworthy for its abundant spreading dirty pubescence, impressed leaf veins, and small, capitate inflorescence.

Declieuxia stenocardia, sp. nov.—Herba ut videtur perennis fruticulosa e basi densissime ramosa 7-10 cm. alta, caulibus gracilibus subrigidis dense albido-hirtellis, internodiis brevibus; stipulae minutissimae fere obsoletae; folia opposita internodiis longiora sessilia crasse coriacea, ovata sed ob margines valde revolutos anguste ovatae et false acuminata, apiculata, basi breviter cordata, suberecta, 3-6 mm. longa, utrinque dense hirtella vel serius glabrata, enervia, supra in parte mediana longitrorsum sulcata; flores terminales solitarii vel paucifasciculati sessiles inter folia fere occulti; hypanthium ut calyx minute hirtellum, calyce 4-partito c. 1 mm. longo, laciniis lineari-subulatis erectis; corolla in alabastro fere 2 mm. longa extus minute puberula, apice obtusa; cetera ignota.—Brazil: Without definite locality, 1891-92, A. Glaziov 19460 (Herb. Berol., type).

The species is well marked by its low habit and by the very small, narrowly heart-shaped leaves with their strongly revolute margins.

Tobagoa maleolens Urban, Repert. Sp. Nov. 14: 343. 1916. *Diodia Ottonis* Schum. ex Pittier, Pl. Usual. Venez. 338. 1926.

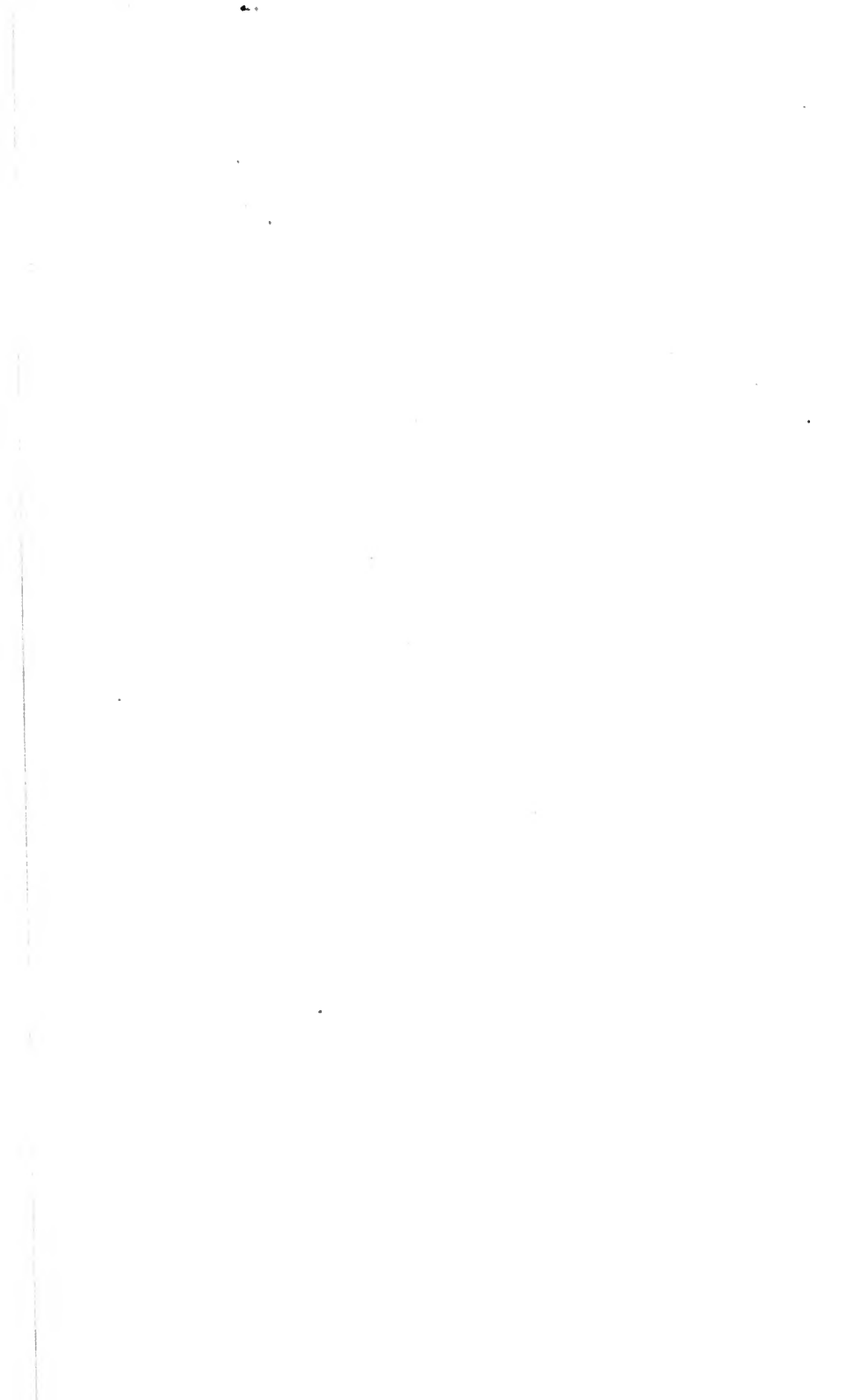
There is at hand a photograph of a specimen of a Venezuelan plant, from the Berlin Herbarium, bearing the annotation by Schumann "*Diodia Ottonis*, ex affinitate *D. strictae* Miq." Specimens collected in Venezuela by Pittier and sent to Berlin for determination

have been distributed under the same name. This plant is evidently identical with that described by Urban from Tobago under the name *Tobagoa maleolens*. *Tobagoa* has not been reported hitherto from Venezuela. The following specimens have been seen by the writer:

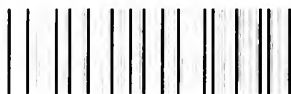
Tobago: Dog River, November, 1889, *Eggers 5783*, type collection (U. S. Nat. Herb.). Louis D'Or, in 1927, *R. O. Williams 11838*.—Venezuela: Caracas, *Otto 673* (fragment and photo. from Herb. Berol.). Caruao, Distrito Federal, in 1925, *Pittier 11935*. Mamo Electric Plant, Distrito Federal, *Pittier 11086*.

***Sherardia arvensis* L.**—Previously I have seen no Peruvian specimens of this introduced European plant, although it is known to grow in Chile. It may be recorded now from Peru: Ocopa, Dept. Junín, April 25, 1929, *E. P. Killip & A. C. Smith 21997*; growing in rocky stream bed at an elevation of 3,300 m.





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